

THE AGRICULTURAL STATIST

OF IRELAND,

FOR THE YEAR

1890.

	Page
1889, Follow,	6-7
1890,	8
1891,	11
1892,	12
1893,	13

DIVISION OF LAND; ACREAGE UNDER CROPS; NUMBER AND SIZE OF HOLDINGS; NUMBER OF OCCUPIERS OF LAND; RATES OF PRODUCE; AVERAGE PRICES OF AGRICULTURAL PRODUCE; NOXIOUS INSECTS; NUMBER, AGES, &c., OF LIVE STOCK; ENTIRE HORSES; BULLS; DISEASES OF CATTLE; EXPORTS AND IMPORTS OF LIVE STOCK; HONEY PRODUCED; NUMBER OF SCUTCHING MILLS; SILOS AND ENSILAGE; FORESTRY OPERATIONS; AGRICULTURAL MACHINES; AGRICULTURAL SCHOOLS; WAGES OF AGRICULTURAL LABOURERS; LOANS FOR LABOURERS' DWELLINGS; OBSERVATIONS ON THE PRODUCE OF THE CROPS BY SUPERINTENDENTS OF ENUMERATION; THE WEATHER.

Presented to both Houses of Parliament by Command of Her Majesty.



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CONTENTS.

INTRODUCTORY REMARKS:—

Page

DIVISION OF LAND, TILLAGE, &c. :

TABLE I.—Acreage under Crops in 1889 and 1890, with proportionate Area under each Crop,	6-7
“ II.—Extent of Land and proportionate Area under Cereal Crops, Green Crops, Flax, Grass, Fallow, Woods and Plantations, and Bog, Waste, Water, &c., in each year from 1881 to 1890,	8
“ III.—Number of Holdings, by Classes, for each County and Province, in 1880 and 1890,	11
“ IV.—Approximate Return of the Number of Occupiers resident in each County and Province in 1890, classified according to the total extent of land held,	22
“ V.—Number of Holdings in each Province in 1841, 1851, 1861, 1871, 1881, and 1890, according to the classification of the Census Commissioners of 1841,	12

PRODUCE OF THE CROPS:—

CONSIDERATIONS INFLUENCING THE PRODUCE OF THE CROPS; NOTES OF SINGULARITIES OF ENUMERATION; THE WEATHER; SEASONAL INFLUENCE,	14
TABLE VI.—Total Produce of the principal Crops in 1889 and 1890, and the Increase or Decrease in the latter year,	15
“ VII.—Estimated Average Produce per Statute Acre of the principal Crops in 1889 and 1890, and the Increase or Decrease in the latter year,	16
“ VIII.—Extent under each of the principal Crops in Statute Acres, the Total Produce, and the Average Yield per Acre, for each year from 1881 to 1890,	18

LIVE STOCK:—

“ IX.—Number and Ages of Live Stock in 1889 and 1890, and the Increase or Decrease in each description for the latter year,	17
“ X.—Number of Live Stock in each year from 1881 to 1890,	18
“ XI.—The proportion per cent. of Horses, Cattle, Sheep, and Pigs according to age, from 1881 to 1890,	19
“ XII.—Number of Milch Cows in each year from 1881 to 1890,	19
Bulls,	20
Diseases of Cattle,	20
Prices of Agricultural Produce,	21

Exports and Imports of Live Stock,	22
Honey produced in 1889,	23
Agricultural Machines,	23
Number of Suckling Pigs, and Number of Stocks,	23
Slies and Ensilage,	24
Forestry Operations,	25
Wages of Agricultural Labourers,	25
Leaves for Labourers' Dwellings,	26
Agricultural Schools,	26
Fruit Cultivation—Turf Bog,	28

SUMMARY TABLES.

TILLAGE; MANURE AND CLOVER; &c.:

TABLE I.—Number of Holdings, their Size in Statute Acres, and the Division of Land in each County and Province in 1880,	31
“ 2.—Proportion per cent. of Total Area under Crops, Grass, Fallow, Woods and Plantations, Bog and Marsh, Barren Mountain Land, and Water, Roads, Fences, &c., in each County and Province,	31
“ 3.—Number of Holdings and Size in Statute Acres, and the Division of Land in 1890 by Poor Law Unions,	35
“ 4.—Proportion per cent. under Crops, Grass, Fallow, &c., by Poor Law Unions,	37
“ 5.—Extent of Land under Crops in 1890, Valuation in 1890, and Population in 1881, by Counties and Provinces,	38
“ 6.—Produce of the Crops in 1890, by Counties and Provinces,	40
“ 7.—Extent of Land under Crops in 1890, Valuation in 1890, and Population in 1881, by Poor Law Unions,	42
“ 8.—Produce of the Crops in 1890, by Poor Law Unions,	46
“ 9.—Number of Holdings exceeding One Acre, the extent of Land under Crops in each year, from 1881 to 1890, by Counties and Provinces,	50
“ 10.—Average Rates of Produce of Crops per Statute Acre, in each year from 1881 to 1890, by Counties and Provinces,	55

A 2

LIVE STOCK :

	Page
TABLE 11.—Number of Stockholders, and Quantity of Live Stock in 1890, by Counties and Provinces, . . .	60
“ 12.—Number of Stockholders and Quantity of Live Stock in 1890, by Poor Law Unions, . . .	61
“ 13.—The Quantity of Live Stock in each year from 1881 to 1890, by Counties and Provinces, . . .	65
“ 14.—Total Area under Potatoes, and the Extent in Statute Acres under each description of that Crop planted in 1890, by Counties and Provinces, . . .	70
“ 15.—Total Area under Potatoes, and the Extent planted of each description of that Crop in 1890, by Poor Law Unions, . . .	71
“ 16.—The Average Rate of Produce per Acre of each description of Potatoes planted in Ireland in 1890, by Counties, . . .	73
TABLE A.—Number of Sires serving Maps in Ireland in 1890, by Counties and Provinces, . . .	74
“ B.—Number of Bulls serving Cows in Ireland in 1890, by Counties and Provinces, . . .	75
“ C.—Agricultural Machines, . . .	76
Observations of District Inspectors of the Royal Irish Constabulary, and of Sergeants of the Metropolitan Police, on the probable cause of the good or bad yield of the Crops in each of their Districts, . . .	79

APPENDIX.

DETAILS REGARDING SOLES AND ENCLOSURES furnished by Owners and Occupiers of Land, . . .	92
ABSTRACT of the METEOROLOGICAL OBSERVATIONS registered at the Ordnance Survey Office, Phoenix Park, Dublin, . . .	116
REMARKS on the Weather of the year 1890, by J. W. Moore, Esq., M.D., F.R.C.S.L., . . .	147

AGRICULTURAL STATISTICS OF IRELAND, FOR THE YEAR 1890.

TO HIS EXCELLENCY LAWRENCE, EARL OF SETLAND,

Esq. Esq. Esq.

LORD LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF IRELAND.

MAY IT PLEASE YOUR EXCELLENCY,

I have the honour to submit to your Excellency the following Report and detailed Tables concerning Agriculture in Ireland for the year 1890, which have been compiled and arranged in the same manner as those for the previous year.

A review of the detailed Tables confirms the observations I made when presenting the General Abstracts in August, 1890, and the Produce Returns in December last.

The following is an analysis of the information contained in the tables :—

DIVISION OF LAND, TILLAGE, &c.

The acreage under Crops, Grass, Fallow, Woods and Plantations, and Bog, Waste, Water, &c., in 1889 and 1890, was as follows :—

Division of
land, 1889
and 1890.

	1889.	1890.	Increase or Decrease between 1889 and 1890.	
			Increase.	Decrease.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Under Crops, including Meadow and Clover,	5,056,816	4,919,725	—	136,290
“ Grass, or Pasture,	9,096,397	10,212,286	215,989	—
“ Fallow,	12,450	14,599	2,148	—
“ Woods and Plantations,	326,636	327,481	825	—
“ Bog, Waste, Water, &c.,*	4,985,354	4,854,715	—	80,639
Total,†	20,528,753			

The area under Crops in 1890, compared with 1889 shows a net decrease of 136,290 acres—there being a decrease of 42,402 acres in tillage, of 55,464 acres in the area under hay on permanent pasture or grass not broken up in rotation, and of 38,424 acres under hay on clover, sainfoin, and grasses under rotation. There is an increase of 215,989 acres under Grass, of 2,145 acres of Fallow land, and of 825 acres under Woods and Plantations, while there is a decrease of 80,639 acres under Bog, Waste, Water, &c.

Of the 4,854,715 acres given as under “Bog, Waste, Water, &c.” in 1890, 1,784,678 acres were enumerated as “Bog and Marsh,” 2,185,492 acres as “Barren Mountain Land,” and 884,545 acres as “Water, Roads, Fences, &c.” Compared with 1889 “Bog and Marsh” appears to have increased by 14,185 acres, while “Barren Mountain Land” decreased by 50,241 acres, and “Water, Roads, Fences, &c.” by 4,588 acres.

* Including 155,585 acres under water. † Exclusive of 494,126 acres under the larger rivers, lakes, and sloughs.

Acreage
under crops
1889 and
1890.

The area and proportionate extent of each crop in 1889 and 1890, with the increase or decrease in the latter year, are given in the following Table (I.), from which it appears that, compared with 1889, there was last year a net decrease of 20,359 acres in cereals, as, while wheat increased by 2,596 acres, and beans and peas by 14 acres, oats decreased by 17,939 acres, barley by 3,725 acres, and bere and rye by 1,305 acres.

In green crops there was a net decrease of 5,287 acres, potatoes having decreased by 6,433 acres, turnips by 2,527 acres, and carrots, parsnips, and other green crops by 2,534 acres, while mangold wursel and beet root increased by 2,436 acres, cabbage by 3,527 acres, and vetches and rape by 244 acres.

Flax shows a decrease of 16,756 acres, and meadow and clover a decrease of 93,888 acres.

In 1890, 30.8 acres in every 100 under crops were under cereals, 24.7 under green crops, 2.0 under flax, and 42.5 under meadow and clover.

Varieties of
Potatoes.

POTATOES.—The tables relating to the potato crop point to several important conclusions. It will be observed (see Table 14, page 70) that of the 780,801 acres planted with potatoes, 78.6 per cent. belonged to one variety, namely, "Champion," showing no appreciable difference in the percentage of this variety as compared with the previous year. Of the total area under potatoes 7.5 per cent. was under Flounders, 3.4 per cent. under Skerry Blues, 3.1 per cent. under White Rocks, 1.3 per cent. under Magnum Bonums, 1.1 per cent. under Kempa, 1.0 per cent. under Scotch Downs, and 4.4 per cent. under all other varieties exclusive of Champions. It will be seen by a reference to Table 16 that not only was the Champion variety the one planted in greatest quantity, but that it was generally the most prolific in its yield.

Table 16 also points out the best potato-growing districts in Ireland, and the varieties which appear to thrive best in particular counties.

Extent
under
Crops.

Of the total extent under crops in 1890, 83.2 per cent., or over four-fifths, were under three crops—oats (24.8), potatoes (15.9), and meadow and clover (42.5).

(TABLE I.)—The Acreage under Crops in 1889 and 1890, and the Increase or Decrease in the latter year:—

Crops.	1889.	1890.	1890.		Crops.	1889.	1890.	1890.	
			Increase.	Decrease.				Increase.	Decrease.
Wheat, . . .	82,745	82,341	5,506	—	Flax, . . .	113,652	96,896	—	16,756
Oats, . . .	1,238,982	1,221,013	—	17,969	Total under				
Barley, . . .	185,763	182,038	—	3,725	Tillage, . .	2,868,494	2,836,092	—	32,402
Bere and Rye,	16,257	14,982	—	1,265	Meadow and				
Benmore & Co.,	4,196	4,370	14	—	Clover:—				
TOTAL EXTENT					Clover, Brim-				
under CEREALS,	1,618,993	1,514,734	—	20,359	feln, and				
Potatoes, . .	787,254	780,801	—	6,433	Grasses	610,342	631,818	—	21,476
Turnips, . .	291,913	289,386	—	2,527	under Rot-				
Mangold Wursel	44,021	46,457	2,436	—	tation, . .				
and Beet Root,	42,487	45,964	3,477	—	Permanent				
Cabbage, . .	13,028	15,552	2,524	—	Pasture or	1,517,280	1,461,813	—	55,467
Vetches and					Grass not				
Rape, . . .					broken up				
Carrots, Pars-					in Sta-				
nips, & other					tion, . .				
Green Crops,	35,105	36,672	—	2,567	TOTAL EXTENT				
TOTAL EXTENT					under Crops,	5,036,016	4,919,750	—	116,266
under GREEN	1,319,749	1,214,462	—	105,287					
CROPS, . . .									

The Proportionate Area under each Crop in 1889 and 1890:—

Crops.	Proportion per cent.		Crops.	Proportion per cent.	
	1889.	1890.		1889.	1890.
Wheat,	1.8	1.9	Chablage,	0.6	0.9
Oats,	24.5	24.8	Vetches and Rape, . . .	0.2	0.3
Barley,	3.7	3.7	Corsets, Parsnips, and		
Bere and Rye, . . .	0.3	0.3	other Green Crops, . .	0.7	0.7
Beans and Pease, . .	0.1	0.1			
UNDER CEREAL CROPS, .	30.4	30.6	UNDER GREEN CROPS, .	24.1	24.7
Potatoes,	15.6	15.9	Flax,	2.2	2.0
Turkies,	5.9	6.0	Meadow and Clover, . .	43.5	43.6
Mangel Wurzel and Beet					
Root,	0.9	0.9	TOTAL,	100.0	100.0

Tables showing the extent of land under crops in 1890 by Counties and Provinces, and by Poor Law Unions, and from 1881 to 1890 by Counties and Provinces, are given at pages 38, 42 and 50 respectively.

The extent of land under grass in 1890 (*exclusive of that under meadow and clover*) was 10,212,256 acres, or 50.2 in every 100 of the entire country, against 9,998,297 acres or 49.2 per cent. in 1889. The relative proportions under grass in each Province were—in Munster 54.6 per cent. in 1890, and 53.3 per cent. in 1889; Leinster 54.9 per cent. in 1890, and 53.9 per cent. in 1889; Connaught 49.3 per cent. in 1890, and 48.4 per cent. in 1889; and Ulster 42.0 per cent. in 1890, and 40.9 per cent. in 1889.

There appears to have been an increase of pasture land in 1890 in Leinster of 1.0 per cent. of the total area of the province, in Munster of 1.3 per cent., in Connaught of 0.9 per cent., and in Ulster of 1.1 per cent.

Of the counties—Limerick, Meath, and Westmeath had each above 60 acres in every 100 of their entire area under grass in 1890; Clare, Fermanagh, Kildare, Kilkenny, Leitrim, Roscommon, and Tipperary had above 55 and under 60 acres; Carlow, Cavan, Cork, Dublin, Longford, Queen's, Sligo, Waterford, and Wexford had from 50 to 55 acres; Antrim, Armagh, Galway, Kerry, King's, Louth, Mayo, Monaghan, Tyrone, and Wicklow had above 40 and under 50 acres; and Donegal, Down, and Londonderry had over 30 and under 40 acres in every 100 acres under grass in 1890. Only 33.4 per cent. of the total area of Donegal was enumerated in 1890 as under grass, while Meath shows the highest percentage, 70.5.

The area of each County and Province, and the extent and percentage under grass in 1890, are given at page 34.

Of the total area of Ireland (20,328,753 statute acres),* the land under grass in 1890 was, as already stated, a little over one-half. It appears from the succeeding Table (II.) to have increased from 49.6 per cent. of the total area in 1881 to 50.2 in 1890, but during the ten years the proportion of grass varied from 50.9 per cent. in 1884 to 48.7 in 1888.

In Cereal Crops a decrease is shown in each year of the decade, the area in 1881 was 1,777,175 acres, and in 1890 it was 1,514,784 acres, being a decrease of 262,441 acres or 14.8 per cent.

The area under Green Crops in 1881 was 1,270,026 acres, and in 1890 it was 1,214,462 acres, showing a decrease of 55,564 acres in the decade.

Flax decreased from 147,145 acres in 1881 to 96,896 acres in 1890.

There were 2,001,029 acres in 1881 under Meadow and Clover, and 2,093,634 acres in 1890; the acreage varied from 1,931,784 in 1883 to 2,221,980 in 1888.

Fallow or uncropped arable land amounted to 21,204 acres in 1881, and to 14,595 acres in 1890.

Comparing the first and the last years of the decade, Woods and Plantations exhibit a decrease from 323,703 acres to 327,461 acres.

In "Bog, Waste, Water, &c." an increase is shown—from 4,708,047 acres in 1881, to 4,854,715 acres in 1890, the difference being equivalent to 0.8 per cent. of the total area.

* See note (†) page 5.

Grass
Land, 1889
and 1890.

Grass
Land in
1890.

Division of
Land, 1881-
1890.

TABLE II.—The Extent of Land in Statute Acres, and the proportional Area, under Cereal Crops, Green Crops, Flax, Meadow and Clover, Grass, Woods and Plantation, Fallow, Bog, Waste, Water, &c., in each Year from 1881 to 1890, also the Number of Holdings exceeding 1 acre.

Years.	Number of Holdings exceeding 1 Acre.	Extent of Land in Statute Acres under										Total.
		Cereal Crops.	Green Crops.	Flax.	Meadow and Clover.	Grass.	All Land in use for Agriculture.	Woods and Plantations.	Fallow.	Bog, Waste, Mountains, Roads, &c.		
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.		
1881.	325,748	1,777,173	1,570,828	147,145	2,001,329	23,079,424	18,270,798	228,768	21,804	4,708,947	83,255,752 Statute Acres.	
1882.	321,812	1,766,797	1,569,369	118,494	1,987,152	20,100,625	18,190,961	228,599	21,585	4,787,828		
1883.	318,866	1,619,591	1,590,383	96,343	1,981,784	18,100,447	16,130,180	331,343	24,224	4,848,380		
1884.	318,465	1,606,819	1,531,426	89,535	1,839,487	16,846,879	15,210,820	337,196	25,641	4,758,486		
1885.	312,580	1,594,668	1,519,209	109,147	2,034,768	18,351,130	15,208,247	370,447	18,112	4,771,847		
1886.	313,499	1,606,704	1,531,832	127,800	2,044,309	16,162,707	15,196,322	329,662	17,628	4,785,361		
1887.	305,588	1,607,658	1,509,660	106,594	2,143,828	16,946,867	15,116,164	329,842	15,748	4,871,400		
1888.	304,691	1,470,945	1,324,145	118,619	2,020,500	9,906,060	15,045,793	331,287	15,818	4,886,726		
1889.	308,016	1,568,096	1,315,740	118,080	2,167,422	9,994,297	15,054,318	326,686	15,460	4,885,384		
1890.	303,094	1,514,761	1,214,602	96,806	2,063,634	16,212,298	15,181,983	327,461	14,583	4,854,715		
Average												
1881-90.	317,586	1,514,388	1,360,875	114,693	2,055,288	16,180,280	15,166,583	328,611	16,245	4,854,711		
Proportionate per Cent. under												
Years.		Cereal Crops.	Green Crops.	Flax.	Meadow and Clover.	Grass.	All Land in use for Agriculture.	Woods and Plantations.	Fallow.	Bog, Waste, Mountains, Roads, &c.	Total.	
1881.	—	8.8	6.8	0.7	9.0	60.8	75.0	1.0	0.1	25.1	100.0	
1882.	—	8.0	6.1	0.6	0.7	60.7	74.7	1.0	0.1	25.6		
1883.	—	8.6	8.0	0.5	9.5	50.1	74.4	1.7	0.1	25.6		
1884.	—	7.9	6.0	0.4	9.7	50.0	74.6	1.7	0.1	25.0		
1885.	—	7.9	6.0	0.6	10.0	50.4	74.8	1.0	0.1	25.6		
1886.	—	7.9	6.0	0.6	10.8	50.0	74.8	1.6	0.1	25.6		
1887.	—	7.7	6.1	0.6	10.6	49.4	74.6	1.6	0.1	25.0		
1888.	—	7.7	6.1	0.6	10.9	48.7	74.0	1.6	0.1	25.6		
1889.	—	7.5	6.0	0.5	10.7	48.2	74.0	1.6	0.1	24.6		
1890.	—	7.4	6.0	0.5	10.8	50.2	74.4	1.6	0.1	25.0		
Average												
1881-90.	—	8.0	6.1	0.6	10.1	50.4	74.6	1.6	0.1	25.7		

Tables showing the extent and the proportionate area under Crops, Grass, Fallow, Woods and Plantations, Bog and Marsh, Barren Mountain Land, and Water, Roads, Fences, &c., in 1890, by counties and provinces, will be found at page 34. From these it appears that there are five counties with upwards of 100,000 acres under "Bog and Marsh," viz.:—Mayo, with 350,943 acres, or 26.7 per cent. of its entire area; Galway, 232,642 acres, or 15.5 per cent.; Donegal, 167,781 acres, or 14.1 per cent.; King's, 112,266 acres, or 22.7 per cent., and Kerry, 127,112 acres, or 11.0 per cent. The following counties contain the smallest areas under "Bog and Marsh," viz.:—Dublin, 324 acres, or 0.1 per cent. of its entire area; Louth, 2,904 acres, or 1.4 per cent.; Down, 5,168 acres, or 0.8 per cent.; and Carlow, 5,091 acres, or 2.3 per cent.; 786,837 acres in the province of Connaught, being 17.4 per cent. of its entire area, are returned as under "Bog and Marsh," including 83,198 acres, or 14.2 per cent. of the County Roscommon, in addition to the large extent in Mayo and Galway as before mentioned.

* See note (†) page 5.

The following statement, extracted from a paper laid by me before the Statistical and Social Enquiry Society of Ireland, on the 23rd June, 1891, shows in a concise manner the extent of Meadow, Clover and Pasture in Ireland during the past 10 years:—

Year.	Meadow and Clover.	Pasture.	Total Grass Land.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
1881, . . .	3,001,029	10,075,424	12,076,453
1882, . . .	3,004,183	10,149,085	12,071,777
1883, . . .	3,031,784	10,132,447	12,124,231
1884, . . .	3,043,487	10,346,876	12,303,363
1885, . . .	3,034,768	10,251,130	12,285,898
1886, . . .	3,034,309	10,103,707	12,255,916
1887, . . .	3,143,618	10,049,607	12,193,325
1888, . . .	3,221,980	9,905,057	12,127,037
1889, . . .	3,187,513	9,998,297	12,185,819
1890, . . .	3,023,434	10,212,256	12,305,890
Average 1881-90, . .	3,023,358	10,130,336	12,103,674

It will be observed that the total area of grass lands has increased from 12,076,453 acres in 1881 to 12,305,890 acres in 1890, being an increase of 229,437 or 1·9 per cent. The cattle and sheep, however, have increased in a greater proportion than the area of pasture lands, so that these are more fully stocked than they were 10 years ago.

"Barren Mountain Land" covers an area of 100,000 acres and upwards in each of the following seven counties, viz.:—Donegal, 322,625 acres, or 27·1 per cent. of its entire area; Kerry, 284,612 acres, or 24·5 per cent.; Galway, 225,814 acres, or 15·1 per cent.; Cork, 242,450 acres, or 13·2 per cent.; Mayo, 198,579 acres, or 15·1 per cent.; Tyrone, 113,014 acres, or 14·5 per cent.; and Wicklow, 120,755 acres, or 24·2 per cent.

Fourteen per cent. of Sligo, or 63,106 acres, 6·8 per cent., or 71,260 acres of Tipperary, and 17·0 per cent., or 77,696 acres of Waterford are under "Barren Mountain Land." The counties containing the smallest areas under "Barren Mountain Land" are Meath with 795 acres, or 0·1 per cent. of its entire area; Longford, 504 acres, or 0·2 per cent.; Westmeath, 837 acres, or 0·2 per cent.; Kildare, 1,379 acres, or 0·3 per cent.; and Monaghan, 3,586 acres, or 1·1 per cent. Only 215,046 acres, or 4·4 per cent. of Leinster are returned as being under "Barren Mountain Land," while 786,064 acres, or 13·2 per cent. of Munster; 655,448 acres, or 12·3 per cent. of Ulster; and 528,934 acres or 12·5 per cent. of Connaught are so returned.*

Very little variation is exhibited in the proportionate area under "Water, Roads, Fences, &c." in the several counties and provinces. In the counties the highest percentage is 7·5 in Dublin, and the lowest 3·1 in Wicklow. 884,545 acres (including 133,035 acres under water), or 4·4 per cent. of the entire area of the country, were returned in 1890 as "Water, Roads, Fences, &c." This, however, does not include the acreage under the larger rivers, lakes and tideways. See note (†), page 5.

A table showing the division of land by Poor Law Unions is given at pages 35 and 36.

* With reference to the question whether waste land is increasing or decreasing in Ireland, the following from a Paper read by Dr. Grimsbury before the Statistical and Social Enquiry Society of Ireland on the 29th of April, 1884, may be of interest:—

"The following Table shows that so far from the waste land of Ireland being on the increase, an immense amount of waste land has been reclaimed during the past forty years.

"DIVISION OF LAND IN 1841, '51, '61, '71, AND '81.

Division of Land.	1841.	1851.	1861.	1871.	1881.
	<i>Statute Acres.</i>	<i>Statute Acres.</i>	<i>Statute Acres.</i>	<i>Statute Acres.</i>	<i>Statute Acres.</i>
Under Crops (including Meadows), . . .	8,894,800	8,830,181	8,892,230	8,722,487	8,195,315
Grass,				30,071,568	35,051,624
Woods and Timberland,	974,549	914,107	8,832,850	824,368	895,755
Barren Mountain Land,			515,821		
Hay and Marsh,	6,828,071	2,612,328	4,094,082	4,812,842	5,270,628
Waste Land, &c.,					501,213
Total,				90,226,718	

NOTE.—The information for 1841 and 1861, respectively, has been obtained from the Census Reports for those years; and that for the subsequent periods from the Agricultural Statistics.

A more extended Extract from the Paper above referred to was printed in the Agricultural Statistics Reports for 1884 and 1885.

NUMBER OF HOLDINGS AND NUMBER OF OCCUPIERS.

Number and size of holdings, 1889 and 1890. According to the returns for 1890, the number of separate holdings was 564,803, being 1,172 less than in the previous year. The holdings which increased in number were—those “not exceeding 1 acre” by 880; those “above 30 and not exceeding 50 acres” by 284; those “above 50 and not exceeding 100 acres” by 51; those “above 100 and not exceeding 200 acres” by 100; those “above 200 and not exceeding 500 acres” by 6; and those “above 500 acres” by 8. The holdings which decreased in number were those “above 1 and not exceeding 5 acres” by 823; those “above 5 and not exceeding 15 acres” by 798; and “above 15 and not exceeding 30 acres” by 881.

Size of Holdings.	Number in 1889.	Number in 1890.	Increase or Decrease in 1890.	
			Increase.	Decrease.
Not exceeding 1 Acre,	49,920	50,808	880	—
Above 1 and not exceeding 5 Acres,	61,800	60,707	—	823
“ 5 “ “ 15 “ “	156,561	155,765	—	798
“ 15 “ “ 30 “ “	125,096	124,218	—	881
“ 30 “ “ 50 “ “	75,403	75,688	284	—
“ 50 “ “ 100 “ “	55,530	55,631	51	—
“ 100 “ “ 200 “ “	22,225	22,325	100	—
“ 200 “ “ 500 “ “	8,367	8,373	6	—
Above 500 Acres,	1,583	1,594	0	—
Total,	565,973	564,803	—	1,172

A table showing the number of holdings, by classes, for each Poor Law Union, in 1890, will be found on pp. 35 and 36.

The number of separate holdings in each county and province, in 1889 and 1890, is given by classes in Table III. at page 11.

As in many instances landholders occupy more than one farm, and as, in other cases, farms extend into two or more townlands—the portion in each townland being enumerated and classified as a separate holding—it has been considered desirable, with the view of ascertaining the number of Occupiers, and of classifying them according to the total extent of land held by each, to obtain a Return of the number of persons having more than one farm or holding. Each Enumerator is, therefore, required to furnish the name of every landholder residing in his district who has two or more farms, or whose farm extends into two or more townlands, together with the area of each portion, and the locality in which it is situated. The number of actual occupiers in 1890 thus arrived at is given in Table IV., page 12, by counties and provinces. On comparing the results in this Table with the figures given in Table III., it appears that in 1890 there were 564,803 holdings in the hands of 524,210 occupiers.

The number of separate holdings and the number of occupiers in each Province in 1889 and 1890 were:—

Province.	Number of Separate Holdings.		Number of Occupiers.	
	1889.	1890.	1889.	1890.
Leinster,	120,904	121,169	108,791	108,851
Munster,	153,365	153,770	112,334	112,888
Ulster,	200,804	199,425	189,418	188,940
Connaught,	121,503	120,448	114,000	113,861
TOTAL,	565,975	564,803	521,543	524,210

The number of occupiers of land in 1890 was 524,210, being 942 less than in the previous year.

Excluding those holding land “not exceeding one acre,” who are to a great extent merely occupiers of small gardens, they numbered 474,009 in 1890, or 1,808 less than in 1889. There was a decrease in Leinster of 156—from 92,727 in 1889 to 92,571 in 1890; in Munster of 147—from 99,761 in 1889 to 99,614 in 1890; in Ulster of 915—from 174,021 in 1889 to 173,106 in 1890; and in Connaught of 590—from 109,308 in 1889 to 108,718 in 1890. The decrease in occupiers holding land above 1 and not exceeding 50 acres was 1,924 and the number holding land exceeding that acreage increased by 116.

TABLE III.—The number of Holdings, by classes, for each County and Province, in 1889 and 1890, and the increase or decrease in the latter year:—

[illegible]

SUMMARY OF ISLAND

COUNTY OF LIMERICK.											
PROVINCES.											
LIMERICK, " "	1850	15,536	17,881	55,429	22,810	15,849	13,785	8,937	2,966	609	120,624
	1850	10,449	17,672	22,661	22,539	18,461	15,585	9,117	2,560	335	121,155
WATERFORD, " "	1850	15,785	16,775	54,775	24,797	22,149	22,135	1,188	2,617	885	153,360
	1850	15,372	16,658	38,513	26,120	21,366	22,260	6,264	2,622	284	124,770
WEXFORD, " "	1850	16,158	20,825	55,577	54,553	24,551	14,714	9,680	1,043	274	293,306
	1850	16,458	20,213	45,494	54,552	24,737	14,118	9,577	1,585	359	254,425
COUNTYDOWN, " "	1850	4,436	15,398	48,348	11,384	6,358	2,183	1,476	578	126,660	
	1850	5,273	12,657	43,553	35,567	14,543	6,269	1,167	1,778	545	127,645
TOTAL OF IRELAND, " "	1850	49,325	61,550	126,661	135,095	73,493	36,239	20,939	5,167	1,485	893,523
	1850	50,809	60,707	134,785	134,915	73,080	36,577	20,028	5,705	1,594	854,966
INCREASE OR DECREASE IN 1850, " "		INCREASE 584	DECREASE 523	DECREASE 786	DECREASE 861	DECREASE 264	DECREASE 81	DECREASE 169	DECREASE 6	DECREASE 109	DECREASE 1,173

TABLE IV.—Return of the number of Occupiers resident in each County and Province in 1890, classified according to the *total extent* of land held, without reference to the Townland, Poor Law Union, County, or Province in which the portions of land are situated:—

Counties.	NUMBER OF OCCUPIERS HOLDING LAND.										Total.
	Not exceeding 1 Acre.	Above 1 and not exceeding 5 Acres.	Above 5 and not exceeding 15 Acres.	Above 15 and not exceeding 30 Acres.	Above 30 and not exceeding 50 Acres.	Above 50 and not exceeding 100 Acres.	Above 100 and not exceeding 200 Acres.	Above 200 and not exceeding 300 Acres.	Above 300 Acres.		
Armagh,	1,275	1,553	4,344	3,447	3,798	2,291	675	197	58	58,213	
Armagh,	1,792	3,479	7,575	4,854	1,251	407	225	25	8	33,285	
Carlow,	1,049	5,545	7,731	838	719	738	337	225	56	4,923	
Cavan,	1,025	1,265	6,505	6,255	2,415	738	221	45	15	15,414	
Cavan,	1,445	1,111	5,113	4,293	1,242	2,222	374	235	62	32,532	
Cork,	3,779	1,843	7,365	6,654	5,792	6,662	3,270	145	145	38,943	
Down,	1,389	2,241	4,128	5,054	2,817	3,053	1,686	231	165	28,743	
Down,	4,251	8,650	8,985	6,082	2,881	1,762	440	40	38	26,134	
Down,	2,019	1,253	1,694	791	455	487	387	77	23	7,843	
Fermanagh,	455	867	3,662	3,329	2,249	1,215	432	111	22	12,236	
Galway,	1,689	4,374	11,310	8,151	3,287	2,791	1,127	671	135	32,530	
Galway,	1,255	1,443	5,792	4,469	2,517	3,797	1,083	613	124	18,255	
Kildare,	694	1,353	1,445	1,375	733	798	683	344	73	7,554	
Kildare,	1,219	1,490	1,855	1,855	1,587	1,875	746	203	49	11,513	
King's,	1,429	1,245	1,243	1,792	1,347	1,966	479	915	11	9,735	
Leinster,	453	712	4,568	4,527	1,745	744	174	61	32	23,589	
Limerick,	2,345	1,492	2,667	2,235	2,447	2,844	969	315	15	15,347	
Limerick,	1,467	1,373	5,506	4,325	1,784	1,584	459	235	59	31,171	
Louth and Drogheda, Co. of	373	229	2,365	5,441	1,684	815	164	74	54	7,989	
Mayo,	1,345	1,185	2,305	1,251	642	423	226	129	51	6,283	
Mayo,	1,448	3,362	14,532	9,329	3,934	1,486	791	478	251	34,257	
Monaghan,	1,334	1,592	2,287	1,734	993	1,825	756	478	142	15,315	
Monaghan,	1,601	1,868	7,566	4,635	1,895	1,865	1,617	35	8	16,236	
Queens's,	1,351	1,459	2,943	1,791	1,128	1,669	837	320	60	6,721	
Queens's,	836	3,919	2,749	4,368	1,568	775	365	250	76	16,879	
Sligo,	785	2,279	8,292	4,323	5,373	275	520	136	85	14,438	
Tipperary,	2,385	2,452	5,635	4,089	5,545	5,159	1,377	666	345	37,959	
Tipperary,	1,584	2,254	7,550	2,421	3,779	2,389	944	177	81	26,539	
Waterford,	2,417	1,106	1,285	1,128	1,873	1,264	815	589	99	8,150	
Waterford,	1,149	3,289	2,650	1,767	1,108	958	481	374	87	6,886	
Wexford,	1,689	2,559	2,559	2,551	2,545	2,182	809	578	37	34,563	
Wexford,	847	723	1,743	1,089	1,008	1,252	637	247	146	5,162	
SUMMARY OF IRELAND.											
PROVINCES.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Leinster,	16,869	16,869	21,640	18,317	13,184	12,184	6,298	9,691	799	106,862	106,862
Munster,	15,314	15,314	20,165	20,115	19,422	20,444	9,698	20,017	2,094	119,886	119,886
Ulster,	15,494	15,494	20,709	20,709	20,709	20,709	14,185	1,203	215	380,540	380,540
Connaught,	5,143	5,143	42,478	42,478	42,478	42,478	2,667	1,664	709	113,561	113,561
Total of Ireland,	52,820	52,820	84,992	81,619	65,800	65,800	32,150	32,150	3,817	2,280	1,007,833

Number of Occupiers of Land, 1884 to 1890.

The following statement shows the number of occupiers of land in each year from 1884 to 1890, by Provinces:—

PROVINCES.	Number of Occupiers in the Years.						
	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Leinster,	105,800	107,976	108,637	108,643	108,884	108,791	108,861
Munster,	109,842	110,186	110,315	111,413	111,198	112,351	112,865
Ulster,	187,996	188,372	188,517	187,804	187,460	189,418	188,540
Connaught,	114,886	115,023	114,805	114,303	114,423	114,609	113,861
IRELAND,	520,724	521,566	522,277	522,161	521,965	525,169	524,127

Increase or decrease in Holdings by Classes between 1884 and 1890.

The number of holdings "above 1 and not exceeding 5 acres" diminished greatly between 1884 and 1890. In Leinster the decrease was 63·3 per cent.; in Munster 81·6; in Ulster 69·1; in Connaught 87·6; and in all Ireland 80·4 per cent.

In the same period holdings "above 5 and not exceeding 15 acres" also diminished in number; the decrease in all Ireland was 38·4 per cent.; it was—in Leinster 44·7 per cent.; in Munster 69·4; and in Ulster 31·3; while in Connaught these holdings increased 1·2 per cent.

Holdings "above 15 and not exceeding 30 acres" increased 7·9 per cent. in Leinster; 115·1 per cent. in Ulster; and 475·3 per cent. in Connaught. They decreased 12·6 per cent. in Munster; while in all Ireland they increased 69·2 per cent.

Holdings "above 30 acres" increased 119·6 per cent. in Leinster; 240·3 in Munster; 354·6 in Ulster; 432·8 in Connaught; and 235·7 per cent. in all Ireland.

The total number of holdings "above 1 acre" decreased between 1841 and 1890 by 22·4 per cent. in Leinster; 32·6 per cent. in Munster; 32·3 in Ulster; and 26·1 in Connaught.

The total number of holdings in Ireland "above 1 acre" was 601,302 in 1841; 570,338 in 1851; 568,184 in 1861; 544,142 in 1871; 526,743 in 1881; and 513,994 in 1890, showing a decrease of 177,208 or 29·6 per cent. in the period between 1841 and 1890.

TABLE V.—The number of Holdings above 1 acre in each Province in 1841, 1851, 1861, 1871, 1881, and 1890, according to the classification used by the Census Commissioners of 1841 (in which "above 30 acres" was the maximum); the increase or decrease in the numbers in each class, and the difference per cent., between 1841 and 1890:—

Number of Holdings in 1841, 1851, 1861, 1871, 1881, and 1890.

SIZE OF HOLDINGS.	Leinster.	Munster.	Ulster.	Connaught.	TOTAL.
	Number.	Number.	Number.	Number.	Number.
Above 1 and not exceeding 5 Acres.	{ 1841, 50,110 1851, 25,711 1861, 23,648 1871, 21,429 1881, 18,504 1890, 17,372	{ 1841, 57,837 1851, 14,500 1861, 13,736 1871, 12,222 1881, 11,026 1890, 10,636	{ 1841, 103,215 1851, 29,709 1861, 28,168 1871, 24,232 1881, 21,971 1890, 20,305	{ 1841, 106,554 1851, 18,463 1861, 19,427 1871, 16,816 1881, 15,260 1890, 12,437	{ 1841, 260,438 1851, 88,083 1861, 85,469 1871, 74,809 1881, 67,671 1890, 60,767
Decrease in number between 1841 and 1890,	Decrease. 32,738	Decrease. 47,222	Decrease. 81,912	Decrease. 87,797	Decrease. 249,669
Rate per cent.,	65·3	81·6	80·1	82·6	80·4
Above 5 and not exceeding 15 Acres.	{ 1841, 46,039 1851, 23,038 1861, 20,618 1871, 27,373 1881, 26,048 1890, 23,481	{ 1841, 61,723 1851, 24,366 1861, 21,369 1871, 20,409 1881, 19,747 1890, 18,913	{ 1841, 50,863 1851, 26,176 1861, 22,043 1871, 23,647 1881, 26,362 1890, 23,434	{ 1841, 45,402 1851, 40,233 1861, 30,404 1871, 26,032 1881, 49,888 1890, 45,985	{ 1841, 222,799 1851, 191,854 1861, 183,931 1871, 171,383 1881, 164,843 1890, 155,763
Increase or Decrease in number between 1841 and 1890,	Decrease. 20,578	Decrease. 43,840	Decrease. 24,161	Decrease. 588	Decrease. 97,056
Rate per cent.,	44·7	69·4	24·3	1·2	38·4
Above 15 and not exceeding 30 Acres.	{ 1841, 20,888 1851, 26,026 1861, 24,286 1871, 22,143 1881, 22,633 1890, 22,323	{ 1841, 27,611 1851, 26,825 1861, 26,805 1871, 25,634 1881, 20,630 1890, 24,133	{ 1841, 25,219 1851, 27,651 1861, 27,660 1871, 26,878 1881, 25,227 1890, 24,263	{ 1841, 6,254 1851, 29,799 1861, 32,880 1871, 32,702 1881, 33,913 1890, 33,807	{ 1841, 79,342 1851, 141,311 1861, 141,351 1871, 138,647 1881, 155,793 1890, 134,915
Increase or Decrease in number between 1841 and 1890,	Increase. 1,635	Decrease. 3,478	Increase. 29,683	Increase. 27,683	Increase. 24,873
Rate per cent.,	7·9	12·6	119·1	475·3	69·2
Above 30 Acres.	{ 1841, 17,943 1851, 53,090 1861, 39,384 1871, 30,531 1881, 39,476 1890, 39,403	{ 1841, 16,688 1851, 53,074 1861, 63,833 1871, 68,428 1881, 56,161 1890, 50,717	{ 1841, 9,656 1851, 37,813 1861, 39,484 1871, 40,471 1881, 48,510 1890, 45,988	{ 1841, 4,362 1851, 20,107 1861, 23,163 1871, 22,273 1881, 21,708 1890, 23,341	{ 1841, 48,635 1851, 143,090 1861, 157,833 1871, 120,308 1881, 155,834 1890, 163,249
Increase in number between 1841 and 1890,	Increase. 21,460	Increase. 40,032	Increase. 34,232	Increase. 18,879	Increase. 114,624
Rate per cent.,	119·6	240·3	354·6	432·8	235·7
TOTAL ABOVE 1 ACRE.	{ 1841, 134,792 1851, 135,671 1861, 116,973 1871, 111,678 1881, 106,560 1890, 104,559	{ 1841, 163,886 1851, 120,434 1861, 118,323 1871, 114,763 1881, 113,014 1890, 110,358	{ 1841, 226,634 1851, 210,346 1861, 207,636 1871, 105,828 1881, 168,070 1890, 183,867	{ 1841, 155,842 1851, 116,884 1861, 120,548 1871, 121,382 1881, 119,706 1890, 115,170	{ 1841, 691,909 1851, 670,338 1861, 568,484 1871, 544,142 1881, 526,743 1890, 513,994
Decrease in number between 1841 and 1890,	Decrease. 30,231	Decrease. 53,428	Decrease. 42,827	Decrease. 40,672	Decrease. 177,308
Rate per cent.,	22·4	32·6	22·3	26·1	29·6

PRODUCE OF THE CROPS.

Made of collecting the Returns of Produce.

The Tables relating to the produce of the crops have been carefully compiled from information obtained by members of the Royal Irish Constabulary and of the Metropolitan Police from practical farmers and other persons qualified to form an opinion as to the yield in that *Poor Law Electoral Division* (adopted since 1856, instead of Constabulary Districts), for which they were requested to afford the information. The names and residences of the parties so co-operating and assisting are stated by the Enumerators on the Returns.

CONDITIONS INFLUENCING THE PRODUCE OF THE CROPS.

Notes of Superintendents of Enumeration.

On pp. 79 to 90 will be found the observations of the District Inspectors of the Royal Irish Constabulary and of the Sergeants of the Metropolitan Police, who acted as Superintendents of Enumeration, in reply to a circular requesting their opinion on the probable cause to which the good or bad yield of the various crops, in each of their districts, may be attributed.

The Weather.

The Weather.

The Weather being a potent factor in influencing the produce of the crops, both as to quantity and quality, the following particulars and those given on pages 147-163 are inserted by the kind permission of the Editor of the *Dublin Journal of Medical Science*: they have been derived from Returns of Meteorological Observations taken in Dublin City during the years 1870-80, by J. W. Moore, Esq., M.D., F.R.C.P., F.R. M.S. Soc.; and published in the *Journal* during the years 1890-91. The Tables on pages 164-166 also, are founded on Dr. Moore's observations:—

The mean Atmospheric Pressure has been obtained from daily readings of the barometer at 9 A.M. and 9 P.M., corrected and reduced to 32° Fahrenheit at the mean sea level. The Mean Temperature values have been deduced from the maximal and minimal readings of the thermometer in the shade. The Rainfall is that measured daily at 9 A.M. A rainy day is one on which at least one-hundredth (01) of an inch of rain falls within the twenty-four hours from 9 A.M. to 9 A.M.

The Mean Height of the Barometer during the year 1890 was 29.927 inches. The highest observed reading was 30.744 inches at 11 A.M. on February 13rd. The lowest observed reading was 28.493 inches at 7.45 A.M. on January 23rd. The extreme range of atmospheric pressure was 2.251 inches compared with 1.940 inches in 1889.

The Mean Temperature of the year, deduced from the maximal and minimal readings of the thermometer in the shade was 49°. The highest reading was 74° on August 4th; the lowest reading was 24.1° on December 21st. The average mean temperature for the years 1870-89 calculated in the same way, was 48.6°. The mean temperature deduced from the daily readings of the dry bulb thermometer at 9 A.M. and 9 P.M. was 49.5°.

Rain fell on 200 days, including snow or sleet on 21 days, and hail on 28 days. The average number of rainy days in the years 1870-89 was 190.9. The total rainfall measured 27.563 inches, compared with an average of 27.968 inches in the twenty years 1870-89. During the first half of 1890 (January to June, inclusive) the rainfall was 13.413 inches on 94 days; during the second half (July to December, inclusive) 14.149 inches fell on 106 days.

As regards the Direction of the Wind, 780 observations were made during the year, with this result—N, 50; N.E., 41; E., 67; S.E., 61; S., 65; S.W., 119; W., 197; N.W., 96; Calms, 34.

Noxious Insects.

Noxious Insects.

The "Special Report on Insects, Fungi, and Weeds injurious to crops" by Mr. Matheson, the Secretary of this Department, mentioned in the report for 1889, was not issued until the autumn of last year. Several references to the injuries caused to crops by noxious insects, &c., will be found in the Notes of the Superintendents of Enumeration.

As regards injury from insects, &c., to fruit and forest trees, it appears from the report of Mr. George H. Carpenter, Consulting Entomologist to the Royal Dublin Society, that the *Millepede*, *Julus guttatus*, Fuh., has been observed causing injury to strawberries, and that the Wood Wasp, *Sirex gigas*, Linn., has been specially injurious during the year to firs and pines. Ravages on pine shoots by the grub of the Saw-fly, *Lophyrus pini*, Curt., and the Pine Weevil, *Hyletius abietis*, Linn., have also been noticed. In an interesting paper read before the Royal Dublin Society, Mr. Carpenter describes a new species of Moth, *Tortrix desclara*, found by Mr. D. O'C. Donelan, of Sydan, Tuam, the caterpillars of which caused much damage in the summers of 1889 and 1890 to a plantation of firs.

Comparing the produce of the crops in 1890 with 1889, Cereal Crops show an increase in oats of 163,607 cwts.; in beans of 9,528 cwts.; and in peas of 2,142 cwts.; while there was a decrease in wheat of 22,199 cwts.; in barley of 185,265 cwts.; in bere of 1,019 cwts.; and in rye of 24,305 cwts.

Total produce in 1889 and 1890.

In Green Crops, there was a decrease in potatoes of 1,037,193 tons in 1890 compared with 1889, while there was an increase of 844,888 tons in turnips, of 41,442 tons in mangel wurzel and beet root, and of 1,694 tons in cabbage.

Flax shows an increase of 133,706 stones of 14 lbs.; hay on clover, sainfoin, and grasses under rotation, a decrease of 120,535 tons; and hay on permanent pasture or grass not broken up in rotation, a decrease of 189,676 tons.

The yield per acre of cereal crops in 1890 compared with that of 1889 shows an increase in oats of 0·4 cwt.; in bere of 0·5 cwt.; in beans of 5·2 cwts.; and in peas of 3·5 cwts.; while there was a decrease in barley of 0·7 cwt.; in wheat of 0·7 cwt., and in rye of 1·3 cwts. In other crops—potatoes show a decrease of 1·3 tons; and cabbage of 0·8 ton. Hay on clover, sainfoin, and grasses under rotation decreased by 0·1 ton, and hay on permanent pasture or grass not broken up in rotation, shows the same rate in both years. Flax shows an increase of 6·1 stones.

Estimated average produce per acre in 1889 and 1890.

The total produce of the principal crops in 1889 and 1890, and the increase or decrease in the latter year, are given in Table VI.; the average produce per statute acre in Table VII.; and in Table VIII. are given the total extent under each of the principal crops, the estimated average yield per statute acre, and the total produce, for each year from 1881 to 1890, inclusive.

TABLE VI.—The total produce of the principal Crops in 1889 and 1890, and the increase or decrease in the latter year :—

Produce of the Crops, 1889-90.

Crops.	Produce.		Increase in 1890.	Decrease in 1890.
	1889.	1890.		
Wheat, Cwts. of 112 lbs.,	1,436,163	1,413,964	—	22,199
Oats, " "	17,632,045	17,796,313	163,607	—
Barley, " "	3,242,022	3,057,357	—	185,265
Bere, " "	6,139	5,199	—	1,010
Rye, " "	203,436	169,130	—	24,305
Beans, " "	67,970	80,798	9,528	—
Peas, " "	8,138	10,281	2,142	—
Potatoes, in Tons, .	2,847,032	1,810,429	—	1,037,193
Turnips, " "	3,908,422	4,364,710	344,888	—
Mangel Wurzel and Beet Root, }	421,429	642,981	41,442	—
Cabbage, " "	431,625	432,819	1,694	—
Flax, in Stones of 14 lbs., .	3,666,691	3,229,229	133,706	—
Hay, in Tons. { Clover, Sainfoin, and Grasses under Rotation, . . . }	1,478,344	1,358,609	—	120,535
Hay, in Tons. { Permanent Pasture or Grass not broken up in Rotation, . . . }	3,275,637	3,215,961	—	189,676

Average
produce of
Crops in
1889 and
1890.

TABLE VII.—The estimated average produce per statute acre of the principal crops in 1889 and 1890, and the increase or decrease in 1890 compared with 1889:—

Crops.	Produce per Statute Acre		Increase in 1890.	Decrease in 1890.
	1889.	1890.		
Wheat, in Cwt. of 112 lbs.	18.0	15.3	—	0.7
Oats, " " "	14.2	14.6	0.4	—
Barley, " " "	17.6	18.6	—	0.7
Peas, " " "	13.0	13.3	0.3	—
Beans, " " "	12.9	11.6	—	1.3
Turneps, " " "	18.2	23.4	5.2	—
Potatoes, " " "	12.2	13.7	1.5	—
Potatoes, in Tons.	3.3	2.3	—	1.3
Turneps, " " "	13.1	14.4	1.3	—
Mangel Wurzel, and Root Root, " " "	14.1	14.3	0.2	—
Cabbages, " " "	10.2	9.1	—	0.8
Flax, in Stones of 14 lbs.	27.3	33.4	6.1	—
Cliver, Sainfoin, and Grasses under Rotation, " " "	2.2	2.1	—	0.1
Hay, in Tons. Permanent Pasture or Grass not broken up to Rotation, " " "	2.2	2.2	—	—

Extent
under Crops,
produce, &c.,
1881-90.

The further statement contained in Table VIII. gives a general view of the state of agriculture during the year 1890 as compared with preceding years.

Tables showing the total produce of the Crops in 1890, by counties and provinces, will be found at page 40, and by poor law unions at page 46. The average rates by counties and provinces for each year from 1881 to 1890, are given at pages 55 to 59.

TABLE VIII.—The extent under each of the principal Crops—the average Yield per Statute Acre, and the total Produce for all Ireland, in each year from 1881 to 1890, inclusive.

EXTENT UNDER CROPS IN STATUTE MEASURE.												
Years.	Wheat.	Oats.	Barley.	Peas.	Beans.	Potatoes.	Turneps.	Mangel Wurzel and Root Root.	Cabbages.	Flax.	Hay.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1881.	158,794	1,885,362	916,685	471	2,381	855,293	280,212	44,835	28,436	147,145	3,001,805	
1882.	152,824	1,857,387	897,594	385	2,175	847,018	280,054	35,315	26,348	153,145	1,982,821	
1883.	151,712	1,881,286	885,381	385	2,284	889,482	284,128	37,548	25,512	153,543	1,981,754	
1884.	157,836	1,844,614	897,381	440	2,148	889,952	284,051	34,542	26,472	157,915	1,983,207	
1885.	151,617	1,838,668	879,328	344	2,389	887,202	280,204	37,378	43,127	163,147	2,004,700	
1886.	160,140	1,891,383	885,385	388	2,476	890,847	285,325	37,118	46,119	157,899	2,086,580	
1887.	167,181	1,915,355	892,709	388	2,271	785,889	281,125	41,730	43,075	164,204	2,165,058	
1888.	165,613	1,898,850	878,729	394	2,542	884,560	284,327	45,546	45,584	153,618	2,221,480	
1889.	162,745	1,888,352	880,705	471	2,586	787,224	285,515	44,021	45,427	155,833	2,167,522	
1890.	162,441	1,890,613	882,658	379	2,475	705,368	282,389	45,457	43,861	156,885	2,032,684	
ESTIMATED AVERAGE PRODUCE PER STATUTE ACRE.												
Years.	Wheat.	Oats.	Barley.	Peas.	Beans.	Potatoes.	Turneps.	Mangel Wurzel and Root Root.	Cabbages.	Flax.	Hay.	
1881.	14.6	14.8	15.6	1.6	10.8	4.0	12.6	13.4	3.6	30.8	2.8	
1882.	13.6	13.6	14.7	1.6	10.8	3.4	12.6	11.6	3.8	29.1	2.1	
1883.	13.6	13.6	13.6	1.6	10.8	4.0	12.6	13.6	3.8	30.5	2.1	
1884.	14.6	13.6	13.6	1.6	10.8	3.8	11.6	13.6	3.8	29.1	2.1	
1885.	13.6	13.6	13.6	1.6	10.8	4.0	11.6	13.6	3.8	30.5	2.1	
1886.	14.6	13.6	13.6	1.6	10.8	3.8	12.6	13.6	3.8	29.1	2.1	
1887.	15.6	13.6	13.6	1.6	10.8	3.8	11.6	13.6	3.8	29.1	2.1	
1888.	15.6	13.6	13.6	1.6	10.8	3.8	11.6	13.6	3.8	29.1	2.1	
1889.	15.6	13.6	13.6	1.6	10.8	3.8	11.6	13.6	3.8	29.1	2.1	
1890.	15.6	13.6	13.6	1.6	10.8	3.8	11.6	13.6	3.8	29.1	2.1	
TOTAL PRODUCE.												
Years.	Wheat.	Oats.	Barley.	Peas.	Beans.	Potatoes.	Turneps.	Mangel Wurzel and Root Root.	Cabbages.	Flax.	Hay.	
1881.	2,387,181	18,705,674	8,235,315	6,885	78,640	8,438,399	3,620,248	641,793	225,268	58,230	3,806,834	
1882.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1883.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1884.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1885.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1886.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1887.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1888.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1889.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	
1890.	2,344,440	18,585,485	8,235,314	4,552	94,447	8,274,359	3,620,267	435,078	344,663	58,271	4,115,169	

LIVE STOCK.

TABLE IX.—The Number and Ages of the Live Stock in Ireland, in 1889 and 1890, and the Increase or Decrease in each description:—

Number and Ages of Live Stock, 1889 and 1890.

Description of Stock.		Number in 1889.	Number in 1890.	Increase in 1890.	Decrease in 1890.
HORSES,	{ Two years old and upwards, . . .	427,507	428,532	1,225	—
	{ One year old and under two, . . .	77,062	80,417	3,355	—
	{ Under one year, . . .	68,895	75,923	6,028	—
Total No. of Horses, . . .		574,564	584,872	10,608	—
MULES,		29,638	30,012	174	—
ASSES,		206,356	213,018	6,762	—
CATTLE,	{ Two years old and upwards, . . .	3,274,038	3,317,736	43,688	—
	{ One year old and under two, . . .	865,835	889,580	32,751	—
	{ Under one year, . . .	953,301	1,023,004	69,703	—
Total No. of Cattle, . . .		4,094,174	4,240,316	146,142	—
SHEEP,	{ One year old and upwards, . . .	2,255,646	2,238,586	280,640	—
	{ Under one year, . . .	1,586,341	1,783,009	345,668	—
Total No. of Sheep, . . .		3,759,187	4,023,595	534,308	—
PIGS,	{ One year old and upwards, . . .	168,646	189,343	20,697	—
	{ Under one year, . . .	1,212,024	1,381,053	168,999	—
Total No. of Pigs, . . .		1,380,670	1,570,396	189,696	—
GOATS,		306,933	327,144	23,211	—
POULTRY,		14,856,517	15,408,428	551,911	—

At the period of the enumeration in 1890, the total number of horses in Ireland was 584,872, being an increase of 10,608 compared with 1889. There was an increase of 1,225 in the number "two years old and upwards," of 3,355 in the "one year old, and under two," and of 6,028 in those "under one year."

Mules numbered 30,012, being 174 more than in 1889, and asses 213,018, being an increase of 6,762 as compared with the previous year.

Horses, Mules and Asses taken together numbered 761,889 in 1889, and 827,902 in 1890, being an increase of 66,013 or 8·7 per cent.

Cattle numbered 4,240,316 in 1890, showing a total increase of 146,142 as compared with the number enumerated in 1889; there was an increase of 43,688 in the "two years old and upwards;" of 32,751 in the "one year old and under two," and of 69,703 in the number "under one year." Taking the ten years 1881 to 1890, cattle increased in number from 3,956,595 in 1881, to 4,228,851 in 1890, decreased in each of the four following years, but increased in 1890, the number being 4,240,316 as already stated.

Number of
Live Stock.

Sheep amounted to 4,323,395 in 1890, showing an increase of 534,208, as compared with the previous year; the "one year old and upwards" increased by 285,540, and those "under one year" by 248,668.

Comparing 1881 with 1890 there has been an increase in the number of sheep from 3,356,185 in the former, to 4,323,395 in the latter year.

Pigs were returned as 1,570,866 in 1890, showing an increase of 189,696, or 18.7 per cent. as compared with the previous year. The "one year old and upwards" increased by 20,697, and those "under one year" by 168,999.

Comparing the number of pigs returned in the ten years from 1881 to 1890, the highest number, 1,570,866, was enumerated in 1890, and the lowest, 1,095,830, in 1881.

Goats numbered 327,144 in 1890, being 23,211 more than in 1889, and 61,066 more than in 1881.

Poultry

The number of poultry in 1890 was 15,408,428, being 551,911 more than in 1889, and 1,436,002 more than in 1881. Of the 15,408,428 poultry in 1890, 1,026,648 were turkeys; 2,311,135 geese; 3,001,811 ducks; and 9,169,034 ordinary fowl.

Compared with 1889, turkeys increased by 41,192, geese by 60,554, ducks by 89,574, and ordinary fowl by 860,291.

Number of
Live Stock,
1881 to
1890.

TABLE X.—The Number of Live Stock in Ireland, in each year from 1881 to 1890, inclusive:—

Year.	Horses and Mules.	Asses.	Cattle.	Sheep.	Pigs.	Goats.	Poultry.
1881, . .	574,746	187,143	3,506,605	3,256,185	1,095,830	246,078	13,972,498
1882, . .	568,958	187,782	3,687,211	3,071,735	1,430,138	203,272	13,099,098
1883, . .	581,437	180,760	4,096,953	3,219,311	1,348,354	263,146	13,382,430
1884, . .	562,430	191,339	4,112,789	3,345,212	1,300,580	234,411	12,747,460
1885, . .	576,430	197,170	4,228,451	3,478,050	1,269,092	294,457	13,680,638
1886, . .	578,299	196,545	4,183,934	3,360,043	1,253,142	248,178	13,909,692
1887, . .	587,234	199,812	4,167,404	3,377,236	1,468,456	271,729	14,480,343
1888, . .	593,368	203,152	4,099,135	3,320,689	1,387,825	295,678	14,486,400
1889, . .	604,101	206,536	4,094,174	3,789,187	1,380,670	303,333	14,356,517
1890, . .	614,884	212,018	4,360,315	4,323,395	1,570,265	327,144	15,408,428

Number of
Live Stock,
1881 to
1890.

TABLE XI.—The proportion per cent. of Horses, Cattle, Sheep, and Pigs in Ireland according to Age, for the years 1881 to 1890, inclusive:—

Years.	Horses.			Cattle.			Sheep.		Pigs.			
	Per-centage at each age.			Per-centage at each age.			Per-centage at each age.		Per-centage at each age.			
	Two Years old and upwards.	One Year old and under Two.	Under One Year.	Two Years old and upwards.	One Year old and under Two.	Under One Year.	One Year old and upwards.	Under One Year.	One Year old and upwards.	Under One Year.	One Year old and upwards.	Under One Year.
1881, . .	79.2	11.4	9.4	57.9	19.9	22.2	64.5	35.5	13.7	86.3		
1882, . .	79.0	10.4	10.0	57.0	19.9	23.1	63.0	37.0	13.2	86.8		
1883, . .	79.2	10.6	10.3	55.3	20.6	23.9	61.7	38.3	13.4	86.6		
1884, . .	78.0	11.1	10.9	55.5	21.5	23.2	62.5	37.5	13.8	87.2		
1885, . .	76.5	11.9	11.4	56.0	20.6	23.2	61.5	38.5	12.7	87.3		
1886, . .	76.5	12.3	11.4	56.7	21.0	22.3	61.7	38.3	13.7	87.3		
1887, . .	75.6	12.3	11.7	56.7	20.3	23.5	60.2	39.8	13.7	87.3		
1888, . .	74.4	13.1	12.5	56.2	21.3	22.5	59.6	40.4	13.2	87.8		
1889, . .	74.4	13.4	12.2	55.5	21.2	23.3	59.5	40.5	13.2	87.8		
1890, . .	75.3	13.7	13.0	54.7	21.2	24.1	58.7	41.3	13.1	87.9		

ENTIRE HORSES.

In connexion with the Agricultural Statistics for 1890, a return was received from each Enumerator, but on former occasions only one return was received from each District. Entire Horses.

As the classification of the sires in the Return for 1890 differs in several details from that used in former years, the numbers are not in all cases directly comparable.

Table A (pages 74-5) shows by counties and provinces the number of sires serving mares in Ireland.

The total number of sires returned in 1890 is 1,925, against 1,230 in 1886, being an increase of 695.

The number for 1890 comprises 667 Thoroughbreds, 484 Halfbreds, 25 Hackneys, 6 Shires, 221 Clydesdales, 472 Agricultural, and 50 of all other breeds.* 1,637 were bred in Ireland, and 288 were imported.

The number of "Thoroughbred" horses (667) exhibits an increase of 336 between 1886 and 1890.

Those returned as Half-bred (484) show an increase of 31 between 1886 and 1890.

The Clydesdale class shows a decrease of 69 between 1886 and 1890.

MILCH COWS.

TABLE XII.—The following statement shows the number of Milch Cows in Ireland in each year from 1854—the first year in which Milch Cows were separately enumerated—to 1890. The average number for the first five years of the period was 1,579,851, and for the last five years 1,392,372, being a decline of 187,479 or 11.9 per cent. The highest number in any one year was 1,690,369 in 1859, and the lowest 1,348,886 in 1864. Milch Cows.

Year.	No. of Milch Cows.	Year.	No. of Milch Cows.	Year.	No. of Milch Cows.	Year.	No. of Milch Cows.
1854, .	1,517,672	1864, .	1,348,886	1873, .	1,628,138	1882, .	1,399,005
1855, .	1,561,296	1865, .	1,367,448	1874, .	1,461,373	1883, .	1,402,324
1856, .	1,579,329	1866, .	1,482,616	1875, .	1,530,366	1884, .	1,356,585
1857, .	1,606,590	1867, .	1,621,003	1876, .	1,532,074	1885, .	1,417,428
1858, .	1,635,409	1868, .	1,476,329	1877, .	1,522,811	1886, .	1,416,644
1859, .	1,690,369	1869, .	1,606,088	1878, .	1,484,615	1887, .	1,394,135
1860, .	1,626,483	1870, .	1,529,094	1879, .	1,444,618	1888, .	1,364,771
1861, .	1,545,168	1871, .	1,546,663	1880, .	1,398,047	1889, .	1,362,781
1862, .	1,488,835	1872, .	1,561,784	1881, .	1,392,012	1890, .	1,400,557
1863, .	1,396,924						

* Under the heading "All other Breeds" in this Return are included—

One Arab and 1 Cleveland in Carlow; 1 Pony in Dublin; 1 Pony, 1 Cleveland, 1 Common Breed, and 2 Irish Red in Kilkenny; 1 Connemara Pony, 1 Half Bred Norwegian Pony, 1 Thoroughbred Norwegian Pony, and 1 pedigree unknown in King's County; 1 "Lothorian" in Longford; 1 Norfolk Trotter in Louth; 1 Pony and 1 "not known" in Meath; 1 Pony in Queen's County; 1 Arab Pony in Wexford; 2 Half Bred Suffolk, 1 Suffolk Punch and 1 Pure Breed Welsh in Wicklow; 1 Connemara Pony in Clare; 2 Suffolk Punch Suffolk, 1 English in Cork, R.R.; 2 Suffolk Punch in Cork, W.R.; 1 Suffolk Punch in Kerry; 1 Trotting, 1 Shetland, and 1 Oriskany Pony in Tipperary, S.R.; 1 Highland Stallion in Antrim; 1 Norfolk and 1 Suffolk Punch in Armagh; 1 "Coaching Horse" in Donegal; 1 Half Bred Cleveland in Down; 1 "Forester" Suffolk Punch in Fermanagh; 3 "Coaching" in Londonderry; 1 Thoroughbred Welsh and 6 unspecified in Tyrone; 2 Connemara Ponies and 1 unspecified in Galway; 1 Scotch and 1 Half Bred Cleveland in Mayo.

BULLS.

Bulls.

It having been considered desirable to ascertain the number of Bulls serving cows in Ireland in 1890, a circular was issued asking for the following particulars:—Name of Bull; Breed—whether "Shorthorn," "Hereford," "Aberdeen Angus," "Norfolk and Suffolk Red Polled," "Kerry," "Dexter," "Jersey," "Guernsey," "Cross-Bred," &c.; Age; whether imported or bred in Ireland; the place where the Bull is kept, and name and address of owner.

Table B (pages 76-7) shows by counties and provinces the number of such Bulls returned.

It appears from this Table that there were 6,714 bulls serving cows in Ireland in 1890; of these 1,630 were in Leinster, 2,024 in Munster, 2,125 in Ulster, and 935 in Connaught.

The numbers of the various breeds are as follow:—"Shorthorn," 4,273; "Hereford," 117; "Aberdeen-Angus," 121; "Norfolk and Suffolk Red Polled," 19; "Kerry," 107; "Dexter," 21; "Jersey," 44; "Guernsey," 12; "Cross-bred," 1,662; and "All other Breeds," 338.*

Tables showing the number of Live Stock in 1890, by counties and provinces, will be found at page 60; by Poor Law Unions at pages 61-4; and by counties and provinces for each year from 1881 to 1890 at page 65.

DISEASES OF CATTLE.

Diseases of Cattle.

The following information is extracted from returns compiled in pursuance of the provisions of the 59th section of the Contagious Diseases (Animals) Act, 1878, for the year ended the 31st December, 1890.

The returns show a decrease in the number of outbreaks of Pleuro-Pneumonia in the year 1890, there having been 240 outbreaks in 1887, 181 in 1888, 108 in 1889, and 95 in 1890.

Ireland continues to be free from Foot-and-Mouth Disease. No case has occurred since the year 1884.

There has been an increase in the number of outbreaks of Swine Fever reported in 1890, as compared with the previous year, the figures being 365 in the year 1890, and 273 in 1889. The number of outbreaks in the year 1890, however, was less than in 1888, in which year there were 392 outbreaks.

Nineteen cases of Glanders were reported during the year.

No case of Farcy was reported.

There were 17 outbreaks of Anthrax during the year, as compared with 21 in the previous year, and 25 in 1888.

The returns show that 353 cases of Rabies were reported in 1890, as compared with 405 in 1889, and 561 in 1888.

* Under the heading "All other Breeds" in this Return are included—

Four Common and 1 unknown in Carlow; 2 Devon, 2 Polled, 1 Dutch, 2 Ayrshire, and 1 Anglesey in Dublin; 2 not known, 1 Irish Breed, and 1 Devonshire in Kildare; 1 Devonshire and 1 "Thoroughbred" in Kilkenny; 1 Longhorn, 1 unknown, 1 unspecified, and 1 Polled Anglesey in King's County; 2 Durhams in Longford; 7 Ayrshire, 1 Berkshire, 1 Shorthorned Durham, 1 Alderney, and 1 unspecified in Louth; 2 Dartsms, 1 Dutch, and 4 unspecified in Meath; 1 Durham and 1 unspecified in Westmeath; 1 Common and 3 not known in Wicklow; 4 Common, 2 Durhams, 2 Dutch, 1 Ayrshire, 1 Alderney, and 1 not known in Clare; 2 Dutch and 2 Common in Cork, S.R.; 4 Ayrshire, 1 Yorkshire, 1 Durham, 1 Common, and 4 not known in Cork, W.R.; 3 Ayrshire and 1 Crosby Hard in Kerry; 2 Durhams, 1 Devon, 1 Alderney, 1 Polled, 1 Crosby, and 17 not known in Limerick; 1 Polled, 5 Ordinary, 2 unknown, and 1 unspecified in Tipperary, N.R.; 2 Red Old Irish Breed, 1 Thoroughbred, and 4 not known in Tipperary, S.R.; 3 Common in Waterford; 13 Durhams, 6 Ayrshire, 5 Galloway, 1 Polled Galloway, 1 Black Galloway, 1 Normandy, 1 Polled, 1 Common Irish, and 3 not known in Antrim; 2 Devon, 3 Ayrshire, 2 Alderney, 1 Polled, and 2 unspecified in Armagh; 29 Durhams, 2 Ayrshire, 1 Devon, and 5 unknown in Cavan; 8 Ayrshire, 5 Durhams, 1 Longhorn, 1 Half Bred Yorkshire, 1 Half Bred Highland, 1 Galloway, 1 Polled Galloway, 1 Black Polled, and 1 Common in Donegal; 3 Durham, 2 Alderney, 2 Devon, 1 Ayrshire, and 5 not known in Down; 1 Devon Red, 1 Devon Gray, 1 Durham, and 2 unknown in Fermanagh; 5 Durham, 7 Galloway, 4 Ayrshire and 2 Polled in Londonderry; 3 Devon, 1 Durham, 1 Alderney, and 1 unspecified in Monaghan; 7 Ayrshire, 4 Black Polled, 5 Durhams, 2 Devon, 2 Galloway, 1 Dorset, 1 Highland, and 3 unknown in Tyrone; 5 Old Irish, 4 Galloway, 4 Polled, 4 Black Polled, 1 Durham, 1 Common, and 3 unspecified in Galway; 3 Durhams, 1 Yorkshire, 1 Polled, 1 Black Polled, and 2 unknown in Leitrim; 7 Kyles, 5 Common, 5 Polled, 3 Galloway, 2 Scotch Breed, and 1 unspecified in Mayo; 2 Devonshire, 1 Polled, and 4 unknown in Roscommon; 2 unknown in Sligo.

PRICES OF AGRICULTURAL PRODUCE.

The following Table is taken from Returns of the Average Prices of Agricultural Produce collected by the Irish Land Commission for the years 1887, 1888, 1889, and 1890, respectively:—

Prices of
Agricultural
Produce.

PRODUCE.	Average Price for the year 1887.	Average Price for the year 1888.	Average Price for the year 1889.	Average Price for the Year 1890.				
				Quarter ending 31 March.	Quarter ending 30 June.	Quarter ending 30 Sept.	Quarter ending 31 Dec.	Whole Year 1890.
CROPS:—	s. d.	s. d.	s.	s. d.	s. d.	s. d.	s. d.	s. d.
Wheat, per cwt.	6 8	6 11½	6 5½	6 7	6 11½	6 8	6 7½	6 8½
Oats, " " " " " " " "	4 10½	5 8	5 5½	5 10½	6 7	6 2	6 8	6 1
Barley, " " " " " " " "	6 0	6 7	6 7	6 5	6 10	6 4½	6 6	6 5½
Flax, per stone,	5 11	6 1½	6 9½	6 6	6 10½	6 10	6 8	6 7½
Peas, per cwt.	3 6	6 2½	5 9½	6 7½	6 1½	6 10	6 10	6 9½
Hay, " " " " " " " "	2 9½	6 0	1 0	1 10½	6 1½	1 9½	2 1	1 10½
BUTTER, " " " " " " " "	20 7	26 10	26 0	20 5½	24 4½	26 9½	20 7	26 9½
KEEF, " " " " " " " "	42 5	43 5	56 4½	25 4½	41 9½	42 6	41 7½	56 30½
MUTTON, " " " " " " " "	56 8	63 4½	79 1½	77 1½	76 3½	65 4	61 1½	59 8
POKE (Fresh), " " " " " " " "	20 7½	43 4½	45 1½	20 6	41 4½	33 6	37 4½	40 1
WOOL, per lb.	0 10	0 10	6 4½	0 10½	0 10	0 6	6 10	0 4½
CATTLE:—	s. s. d.	s. s. d.	s. s. d.	s. s. d.	s. s. d.	s. s. d.	s. s. d.	s. s. d.
1st Class—One year old,	6 1 6	6 16 6	6 18 6	6 6 6	6 18 6	6 6 6	6 16 6	6 16 6
" Two years old,	12 1 6	12 6 6	12 2 0	12 10 6	12 4 6	12 6 6	12 5 6	12 5 6
" Three years old,	15 12 6	16 0 6	16 6 7½	16 6 30	16 15 4½	16 4 6	16 6 4½	16 6 4½
" Springers,	27 6 6	17 16 6	19 16 6	16 12 4	17 12 10	17 4 1½	16 1 6	16 1 6
2nd Class—One year old,	6 6 6	7 0 6	6 16 10½	7 12 10	7 6 1½	7 6 4½	7 6 6	7 6 6
" Two years old,	6 16 0	12 6 6	6 16 4½	12 15 12	12 6 6	12 6 1½	12 6 3½	12 6 3½
" Three years old,	20 6 0	16 6 6	16 6 16	16 16 15	16 4 1½	16 16 6	16 7 10	16 7 10
" Springers,	23 1 0	16 10 7	16 7½ 4½	16 6 1	16 6 7½	16 4 10	16 16 1½	16 16 1½
3rd Class—One year old,	6 12 6	6 6 6	6 6 10	6 16 4	6 6 1½	6 6 7½	6 6 7	6 6 7
" Two years old,	7 6 6	6 6 1	7 16 4½	6 16 1	7 16 7½	7 6 6	7 6 7½	7 6 7½
" Three years old,	6 11 4	16 6 6	6 6 7	16 4 7	6 6 5½	6 16 6	6 16 1½	6 16 1½
" Springers,	6 14 6	16 16 6	11 1 4	11 12 11	16 16 7½	16 16 7½	16 16 6	16 16 6
SHEEP:—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Wethers,	26 8	26 4½	26 8	—	26 11	26 1	26 11½	26 4
Heewies,	—	—	—	—	46 5	46 8	46 10	46 7
Two years old and over,	—	—	—	—	46 6	46 8	46 1	46 10

EXPORTS AND IMPORTS OF LIVE STOCK.

Exports of
Live Stock.

With the view of giving a more accurate idea of the number of live stock produced in Ireland the following statement has been extracted from the Statistical Returns published in the Report for 1890 under the "Contagious Diseases (Animals) Act, 1878."

Number of Cattle, Sheep, and Swine, exported from Ireland to Great Britain during each of the sixteen years, 1875-90:—

Years.	Cattle.					Sheep.			Swine.			Years.	
	Cows, Bulls, and Calves.				Calves.	Total.	Sheep.	Lambs.	Total.	Fet Swine.	Horn Swine.		Total.
	Fet Cattle.	Store Cattle for Slaughter or breeding purposes.	Other Cattle.	Total.									
1875.	401,681	205,176	21,267	228,024	61,796	618,218	648,807	278,873	627,878	608,179	74,408	682,587	1875.
1876.	379,384	208,812	28,761	208,861	48,267	608,896	474,371	312,537	604,899	498,644	77,619	576,263	1876.
1877.	468,070	201,549	7,709	210,859	10,792	608,612	481,239	370,645	601,774	608,612	70,118	678,730	1877.
1878.	265,861	414,720	6,864	292,847	81,894	720,432	440,528	126,271	646,990	605,187	58,890	664,077	1878.
1879.	367,897	299,948	6,848	274,693	83,884	661,279	386,901	184,340	398,371	675,075	88,668	763,743	1879.
1880.	408,609	412,286	8,813	201,990	66,078	581,891	425,808	351,817	734,786	668,163	26,325	694,488	1880.
1881.	378,122	410,808	8,730	405,758	87,833	671,687	461,719	18,814	677,607	668,168	33,462	701,630	1881.
1882.	391,777	427,799	3,000	729,781	83,863	769,774	585,868	168,818	685,484	674,835	49,485	724,320	1882.
1883.	379,360	478,818	1,816	808,940	60,020	718,787	618,166	146,491	684,780	688,768	27,324	716,092	1883.
1884.	385,259	405,859	3,028	664,868	71,348	718,548	668,680	277,868	638,368	672,327	53,481	725,808	1884.
1885.	340,340	440,340	1,804	668,170	73,300	618,670	668,630	370,000	710,000	670,000	37,000	707,000	1885.
1886.	468,124	388,617	1,360	778,180	40,480	712,356	668,580	568,780	714,318	682,800	28,778	711,578	1886.
1887.	481,218	302,676	3,570	548,200	25,770	668,262	621,344	221,876	640,808	682,560	42,768	725,328	1887.
1888.	287,887	408,646	2,612	801,028	47,668	718,718	490,828	681,788	681,668	681,668	48,296	729,964	1888.
1889.	388,818	278,601	1,400	228,170	72,767	668,680	672,318	668,876	626,100	626,100	48,648	674,748	1889.
1890.	328,218	288,198	1,310	678,940	81,460	618,160	587,320	560,761	626,661	644,427	38,748	683,175	1890.

From the foregoing it is evident that some of the younger animals included in the Statistics of Exports must of necessity escape enumeration in June of each year when the returns of live stock are collected for this Department. Viewing the number of animals exported in relation to those enumerated, it is found that in cattle the number exported bears a relation of 14.9 per cent. to those enumerated in 1890, as compared with 18.4 per cent. in 1889; in sheep 14.7 per cent. as compared with 16.2 per cent. in 1889; and in pigs 38.4 per cent. as compared with 34.3 per cent. in 1889.

From the same Report it appears that the number of horses exported in 1890 amounted to 34,152, equal to 5.6 per cent. of those enumerated.

It also appears that during the same period there were imported into Ireland, 3,213 horses, 452 cattle, 34,287 sheep, and 189 pigs.

Imports of
Live Stock.

HONEY PRODUCED IN 1889.

Honey
produced in
1889.

In connexion with the Agricultural Statistics for 1890, Returns were obtained of the amount of Honey produced in the year 1889, and of the number of swarms at work. Tables compiled from the information contained in these Returns are given in the Produce Report presented to Parliament in December of last year.

According to the returns received there would appear to have been an increase of 11.3 per cent. in the number of swarms of bees at work, the respective numbers for 1888 and 1889 being 26,447 and 29,396; and an increase of 29.4 per cent. in the quantity of Honey (424,888 lbs.), produced in 1889, as compared with that produced in 1888 (328,092 lbs.).

Of the 424,888 lbs. of Honey produced in 1889, 218,506 lbs. were produced "in hives having movable frames," and 206,382 lbs. "in other hives." It was stated that 227,046 lbs. was "run honey," and 197,842 lbs. "section honey."

The average number of lbs. of honey to each hive having a movable frame was 20 lbs., the average number of lbs. to each of the other hives was 11 lbs., and the average quantity produced in all hives was 14 lbs. Honey produced in 1889.

The number of stocks brought through the winter of 1889-90 amounted to 24,665, of which 9,994 were in hives having movable frames, and 14,671 in other hives; the stocks brought through the winter of 1888-9 numbered 21,486, showing an increase in 1889-90 of 3,179 stocks.

According to the returns collected there were 7,536 lbs. of wax manufactured in 1889, of which 2,681 lbs. were from hives having movable frames, and 4,855 lbs. from other hives; in 1888 the quantity manufactured was 7,751 lbs., showing a decrease of 215 lbs. in 1889 as compared with 1888.

AGRICULTURAL MACHINES.

Agricultural Machines.—A return of the number of Agricultural Machines in Ireland was taken in connexion with the Agricultural Statistics for 1890. On page 78 will be found a table showing the number of the different kinds of these Implements in 1865, 1875, 1881, 1886, and 1890. From this table it will be seen that churning machines (2,796) show an increase of 1,948 between 1865 and 1890. Mowing machines and combined mowing and reaping machines numbered 11,530 in 1890, being an increase of 10,445 since 1865, when the number was 1,085. Reaping machines increased by 1,644 between 1865 and 1890, the respective numbers for these years being 413 and 2,056. Threshing machines numbered 9,180 in 1865, 12,410 in 1875, 18,295 in 1881, 7,043 in 1886, and 7,894 in 1890. Agricultural Machinery.

SCUTCHING MILLS.

The number of Mills for scutching Flax in Ireland in 1890 was 1,059, being a decrease of 3 compared with 1889, and a decrease of 113 since the year 1861. 1,045 of these Mills in 1890 were in Ulster, 5 in Munster, 2 in Connaught, and 7 in Leinster. There were 429 Mills with from 1 to 4 stocks; 338 having 5 or 6; 266 with from 7 to 12; 23 having from 13 to 16, and 3 having above 16 stocks; 858 were worked by water power; 130 by steam; and 71 by water and steam. The total number of Stocks in Ireland in 1890 amounted to 6,470, and of this number 6,362 were in Mills situated in Ulster. Scutching Mills, 1890.

The following is the number of Scutching Mills, in each year, from 1861 to 1890, inclusive, by Provinces:— Scutching Mills, 1861 to 1890.

Provinces.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1890.
Leinster, . .	9	7	6	9	7	7	7	8	7	7
Munster, . .	15	19	15	12	9	8	8	4	4	5
Ulster, . .	1,135	1,114	1,099	1,066	1,037	1,033	1,063	1,066	1,048	1,045
Connaught, . .	13	12	10	8	9	5	2	2	3	2
IRELAND, .	1,172	1,152	1,132	1,116	1,092	1,063	1,078	1,079	1,062	1,059

Scutching
Mills, 1890.

Number of SCUTCHING MILLS in 1890, by COUNTIES and PROVINCES, classified according to the number of Stocks in each MILL, and the Power used in working them; with the Total Number of Stocks in each County:—

PROVINCES AND COUNTIES IN WHICH THERE WERE SCUTCHING MILLS.	POWER EMPLOYED.					Total No. of Mills.	CLASSIFICATION OF MILLS.					Total No. of Stocks.
	Water.	Steam.	Water and Steam.	None.	Wind.		Having 1, 2, 3 or 4 Stocks.	Having 5 to 6 Stocks.	Having above 6 but not exceeding 12 Stocks.	Having above 12 but not exceeding 18 Stocks.	Having above 18 Stocks.	
LEINSTER:												
Longford, . . .	1	.	.	.	.	1	.	.	.	1	.	14
Louth & Drogheda, Co. of Town, . .	2	2	.	.	.	4	.	.	4	.	.	38
Meath, . . .	1	.	1	.	.	2	.	1	1	.	.	14
Total, . . .	4	2	1	.	.	7	.	1	5	1	.	66
MUNSTER:												
Cork, . . .	4	.	1	.	.	5	3	1	1	.	.	33
Total, . . .	4	.	1	.	.	5	3	1	1	.	.	33
ULSTER:												
Antrim, . . .	119	6	6	.	.	133	63	44	33	1	.	769
Armagh, . . .	77	16	4	.	.	97	8	45	38	5	1	783
Cavan, . . .	38	7	.	.	.	45	9	30	12	.	2	311
Donegal, . . .	151	3	9	.	.	163	134	24	15	.	.	693
Down, . . .	107	39	24	.	.	170	32	64	76	8	.	1,360
Fermanagh, . .	22	2	1	.	.	25	12	6	5	2	.	149
Londonderry, .	147	8	9	.	.	164	68	37	19	.	.	836
Monaghan, . .	58	15	7	.	.	78	22	30	23	3	.	534
Tyrone, . . .	132	31	9	.	.	172	86	46	27	3	.	978
Total, . . .	819	127	69	.	.	1,045	456	336	258	22	3	6,362
CONNAUGHT:												
Leitrim, . . .	1	.	.	.	.	1	.	.	1	.	.	8
Mayo, . . .	.	1	.	.	.	1	.	.	1	.	.	11
Total, . . .	1	1	.	.	.	2	.	.	2	.	.	19
TOTAL OF IRELAND,	858	180	71	.	.	1,059	459	338	266	25	3	6,470

SILOS AND ENSILAGE.

Silos and
Ensilage.

Following the courses adopted in the three previous years relative to Ensilage, I communicated with those Landed Proprietors and Landholders, throughout the country, having Silos or otherwise making Ensilage, requesting them to favour me with certain details regarding the methods followed and the results obtained in the year 1890. I received replies to 261 out of 373 circulars issued by me, and I beg to express

my obligations to my correspondents for the valuable and interesting information afforded. It will be found set forth in the Appendix, pp. 92 to 145.

The following Table shows, by Counties and Provinces, the number of Silos or Stacks mentioned in the communications received from the persons who forwarded replies to the circular above referred to—

Counties.	Number in 1889.	Number in 1890.	Counties.	Number in 1889.	Number in 1890.
Astrin,	27	32	Mayo,	14	9
Armagh,	1	1	Meath,	63	67
Carlow,	6	7	Monaghan,	2	1
Cavan,	1	6	Queen's,	12	19
Clare,	9	8	Roscommon,	3	8
Cork,	24	13	Sligo,	2	1
Down,	13	10	Tipperary,	24	19
Dublin,	5	7	Trinity,	15	15
Dublin,	10	5	Waterford,	10	9
Fermanagh,	8	4	Westmeath,	4	14
Galway,	18	14	Wexford,	10	2
Kerry,	9	5	Wicklow,	10	7
Kildare,	14	17			
Kilkenny,	13	10	PROVINCES.		
King's,	23	28	Leinster,	175	196
Lantern,	8	13	Munster,	21	75
Limerick,	18	21	Ulster,	23	83
Londonderry,	21	17	Connaught,	45	45
Longford,	6	10			
Louth,	6	5	TOTAL OF IRELAND,	404	401

FORESTRY OPERATIONS.

In view of the interest attaching to this subject in later years, inquiries into Forestry Operations were instituted in 1890: the details are set forth in the GENERAL ABSTRACT OF FORESTRY OPERATIONS IN IRELAND during the year ended 30th June, 1890. The subjects of investigation were—I. Planting—The area planted during the year ended 30th June, 1890, the total number of trees planted in that period, and the number of each description; II. Felling—The area cleared and the number of trees of each description felled; III. Ages of trees felled; IV. Disposal of timber. The inquiry did not extend to the planting or felling of isolated trees.

It appears that during the period 1851-90 there was some slight fluctuation in the acreage, and that comparing 1890 with 1851 there has been an increase of about 7 per cent., the extent under woods and plantations in 1851 being 304,906 statute acres, and in last year 327,461 acres.

During the year ended 30th June, 1890, 1,488 acres were planted with trees. Larch trees constituted more than one-third, and fir trees about 12 per cent. of the total number planted.

In connection with this subject it may be here mentioned that 106 loans for £24,270 have been sanctioned for planting for shelter since the passing of the Act, 29 & 30 Vict., cap. 40, and of this number 5, amounting to £2,050, were sanctioned in the year ended 31st March, 1890.

The number of trees felled both for clearance and for thinning plantations amounted to 1,256,887. It would appear that about one-half of the total number felled consisted of larch trees. The area returned as cleared is 1,299 acres.

Of the 1,256,887 trees felled, 793,805 were used for "propping," which appears to have been the chief purpose to which the timber of almost all descriptions was applied. The numbers applied to the principal specified uses comprise also:—64,104 trees (including 30,434 larch and 18,033 oak), for sleepers, 50,598 (chiefly larch) for paling, 23,238 for spools, &c., 30,306 for furniture and building purposes, 19,346 for carts, wagons, &c., 10,574 for clog soles, 11,590 (mainly oak from the County Wicklow), for ship-building, and 5,750 for telegraph and telephone poles.

D

WAGES OF AGRICULTURAL LABOURERS IN 1890.

Enquiries were made as to the Wages paid to Agricultural Labourers in 1890, and the information received from the District Inspectors of the Royal Irish Constabulary with reference to their respective districts is shown in the following Table and notes appended thereto.

I.—PROVINCE OF LEINSTER.

COUNTY AND CONSTATORY DISTRICT.	SUMMER.								WINTER.							
	Men.		Boys.		Women.		Girls.		Men.		Boys.		Women.		Girls.	
	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.
CARLOW COUNTY.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Rapemore (A). . .	2 0	2 8	1 0	1 8	1 0	0 0	1 0	1 8	1 0	1 0	0 0	1 0	1 0	1 0	0 0	0 10
Outier, . . .	1 8	2 4	1 0	1 8	1 0	1 0	0 12	1 12	1 3	1 0	0 0	0 12	0 8	0 11	0 0	0 12
DUBLIN COUNTY.																
Drishaw (A). . .	2 8	0 8	1 8	1 7	1 0	1 4	0 10	0 11	1 8	1 8	0 30	1 0	0 8	0 11	0 8	0 10
Greent, . . .	2 8	0 10	1 4	1 6	1 0	1 8	None employed		1 8	0 0	0 30	1 0	0 30	1 0	None employed	
Dundrum, . . .	2 0	0 8	1 0	1 8	1 0	1 1	1 0	1 0	1 8	0 0	0 30	1 4	1 0	1 8	0 8	1 0
Lucan, . . .	2 0	2 0	1 0	1 8	1 4	1 8	1 1	1 8	1 30	0 0	0 11	1 0	1 0	1 2	0 30	0 11
KILDARE COUNTY.																
Abby, . . .	2 8	0 8	1 8	0 0	1 8	2 8	0 30	1 0	1 8	0 8	0 30	1 0	0 10	1 8	0 8	1 0
Edgarr, . . .	0 0	0 8	1 0	1 8	1 8	2 8	1 0	1 8	1 8	0 0	0 30	1 0	1 0	1 8	0 8	1 0
Noss, . . .	0 0	2 0	1 8	1 8	1 8	1 8	1 0	1 8	1 8	0 0	1 0	1 8	1 0	1 8	0 10	1 0
Rebstockwa, . . .	0 8	0 8	1 0	1 8	1 8	1 8	0 30	1 0	1 8	2 8	0 8	1 8	0 8	1 8	0 8	0 8
KILKENNY COUNTY.																
Collins, . . .	0 0	2 8	1 4	1 8	1 4	1 8	0 8	1 8	1 4	2 0	1 8	-	1 0	-	-	-
Concession, . . .	1 8	0 8	1 0	1 8	1 0	1 8	0 8	1 8	0 8	1 0	0 4	0 8	0 8	0 8	0 4	0 8
Johnstown, . . .	1 8	2 8	1 8	2 0	1 8	0 8	1 8	0 8	1 8	1 8	1 0	1 8	1 0	1 8	1 0	1 8
Kilbrary, . . .	1 8	2 0	1 0	1 8	1 8	1 8	0 8	1 0	1 8	1 8	0 8	1 8	0 8	1 8	0 8	0 8
Enghen (A), . . .	1 0	1 8	0 8	1 8	0 8	1 8	0 8	1 0	0 11	1 8	0 8	0 10	0 8	0 10	0 8	0 8
Thomastown (A), . . .	1 8	0 0	1 8	2 0	0 8	0 8	0 8	2 0	1 8	0 0	0 8	1 8	0 8	1 8	0 8	1 8
KING'S COUNTY.																
Blanchard, . . .	1 8	2 8	0 8	1 0	1 8	1 0	1 8	1 8	1 8	0 8	0 8	0 8	0 8	0 10	1 0	0 8
Peabody, . . .	1 8	2 0	1 8	1 4	1 0	1 8	0 8	1 0	1 8	0 8	0 30	1 0	0 30	1 0	0 0	0 10
Thomastown, . . .	2 0	2 8	1 8	1 8	1 8	2 0	1 8	1 8	1 8	1 8	1 4	1 8	1 8	1 0	1 0	1 0
Wicklow (A), . . .	2 8	2 8	1 8	1 4	1 8	1 8	1 8	1 4	1 8	1 8	0 8	1 8	0 8	1 8	0 7	0 11
Tullamore, . . .	1 8	0 8	1 0	1 8	1 8	1 8	0 8	1 8	1 8	2 8	0 8	1 8	0 8	1 4	1 8	0 10
LONGFORD COUNTY.																
Longfords, . . .	1 8	-	0 18	-	0 10	-	0 8	-	1 2	-	0 8	-	0 8	-	0 8	-
Grassard, . . .	1 30	1 12	0 30	0 10	0 10	0 10	0 10	0 10	0 10	0 10	0 10	0 10	-	-	-	-
Longford, . . .	1 4	0 8	0 10	1 8	1 8	1 8	0 8	1 0	1 8	1 8	0 7	0 8	0 10	1 8	0 4	0 8
LOUTH COUNTY.																
Adair, . . .	1 7	1 8	0 30	1 2	1 0	1 8	0 11	1 0	1 3	1 4	0 30	1 8	0 11	-	0 4	-
Collins, . . .	1 8	0 8	1 0	1 4	1 8	1 8	0 8	1 0	1 8	1 8	0 8	1 8	1 8	1 8	0 8	1 0
Doughade, . . .	1 8	1 8	0 18	1 2	0 10	1 8	0 10	1 0	1 4	1 8	0 30	1 8	0 30	1 0	0 8	0 10
Dundalk (A), . . .	1 8	1 10	1 0	1 8	1 0	1 8	0 10	1 0	1 3	1 8	0 30	1 8	0 30	1 0	0 8	0 8

(1) During the harvest work labourers get higher rates. The rates given are those paid to Agricultural labourers who have permanent employment.
(2) May 12, second employment received 3s. per day. This is not generally employed in winter, except on odd days during harvest time they get from 1s. 6d. to 1s. 10d. per day.

(3) Along with the wages given in cash, agricultural labourers get, in the majority of instances, rent free, and in some instances on breakfast and dinner only. When the labourers get 10 ration tickets they are generally for men, 5s. 6d. to 5s.; boys, 1s. 6d. to 1s. 6d.; women, 1s. 6d. to 2s.; girls, 1s. 6d. to 1s. 6d. (4) The wages are only paid at harvest time and the same remark applies to the rate for women; boys and girls are generally hired by the half-year and seldom by the day.

(5) Very few women are employed as agricultural labourers in this locality except in the summer at turf cutting.

(6) Some of the labourers have, in addition to their wages, a free house and a piece of ground.

I.—PROVINCE OF LEINSTER—continued.

COUNTIES AND CORRELATIVE BARONIES.	SUMMER.								WINTER.							
	Men.		Boys.		Women.		Girls.		Men.		Boys.		Women.		Girls.	
	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.
KILDEARE COUNTY.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
Arklow, . . .	1 7	9 1	0 11	1 10	1 1	1 3	0 9	0 10	1 3	1 8	0 7 1/2	0 9	0 9	0 10 1/2	0 7	0 8
Dunshaughlin, . . .	1 9	2 0	1 0	1 9	1 0	1 0	1 0	1 0	1 0	1 9	0 8	1 0	1 0	1 0	0 9	1 0
Kild.	2 0	9 9	—	—	1 0	1 0	1 0	1 0	1 0	1 0	—	—	0 9	1 0	0 8	1 0
Stam. (S), . . .	1 8	9 0	0 8	1 0	1 0	1 0	0 10	1 0	1 0	1 0	0 8	0 10	0 9	0 10	0 9	0 9
Stam.	1 8	2 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 9	1 0	0 8	1 0
Trim (S), . . .	1 8	1 8	0 10	1 0	1 0	1 0	0 10	1 0	1 0	1 0	0 0	0 10	0 8	1 0	0 8	0 8
QUEEN'S COUNTY.																
Athydown, . . .	1 0	0 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 0	1 0	—	—	—	—
Ballynasc, . . .	1 0	1 11	1 0	1 2	1 1	1 7	0 11	1 0	1 1	1 2	0 8	1 0	0 9	1 0	0 7	0 8
Marlbrough (S), . . .	1 0	2 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 0	1 0
Montrush (S), . . .	1 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	1 0	0 10	1 0	0 10	1 0	0 0	0 10
WEXFORD COUNTY.																
Ballynasc, . . .	1 0	2 0	1 0	1 0	1 0	0 0	1 0	0 10	1 0	0 0	1 0	0 0	1 0	0 0	0 0	1 0
Castellard (S), . . .	—	1 0	—	—	—	—	—	—	—	1 0	—	—	—	—	—	—
Galvin,	1 0	2 0	0 11	1 1	1 1	1 2	0 10	1 0	1 0	1 0	0 0	0 0	0 0	0 10	0 0	0 0
Kilbegan,	1 0	2 0	0 9	1 0	0 10	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 10	1 0	0 0	1 0
Wick,	1 0	1 0	1 0	1 0	0 11	1 1	0 0	1 0	1 1	1 0	0 10	0 10	0 10	0 0	0 0	0 0
Willingham,	1 0	2 0	1 0	1 0	1 0	2 0	1 0	1 0	2 0	—	—	—	—	—	—	—
WICKLOW COUNTY.																
Ballynasc, (S), . . .	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8	0 8
Down,	1 10	2 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 0	0 10	0 10	1 0	0 0	0 10
New Ross (S), . . .	1 0	1 0	0 7 1/2	0 8 1/2	0 10	1 0	0 0	0 10	0 10	1 0	0 0	0 7 1/2	0 10	1 0	0 0	0 0
Taghmon,	1 0	2 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 0	0 10	1 0	1 0	—	—
Wexford,	1 0	1 0	0 10	0 10	0 10	1 0	0 0	0 10	0 10	1 0	0 0	0 0	0 0	0 10	0 0	0 0
WICKLOW COUNTY.																
Arklow,	1 0	2 0	0 10	1 0	1 0	1 0	0 0	0 10	1 0	2 0	0 10	0 10	0 10	1 0	0 0	0 10
Down,	1 0	2 0	0 9	1 0	0 10	1 0	1 0	1 0	0 0	0 0	0 0	1 0	0 10	1 0	0 0	1 0
Down,	1 0	1 10	1 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	0 0	0 10	0 0	0 0	0 0	0 0
Wicklow,	1 0	1 0	1 0	1 0	1 0	1 0	—	—	1 0	1 0	0 0	0 10	0 0	0 10	—	—

II.—PROVINCE OF MUNSTER.

CLARE COUNTY.																
Ballynasc,	0 8	1 0	1 0	2 0	1 2	3 0	0 10	1 0	1 0	1 0	—	—	—	—	—	—
Wick,	1 0	2 0	0 8	1 0	0 10	1 0	0 0	0 10	1 0	1 0	0 0	0 10	0 0	0 0	0 0	0 0
Ballynasc,	0 0	0 0	1 0	0 0	1 0	—	1 0	—	1 0	1 0	1 0	1 0	1 0	1 0	1 0	—
Wicklow,	1 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 10
Wicklow (S), . . .	1 0	2 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 10
Wicklow,	1 0	0 0	1 0	1 0	1 0	1 0	0 10	1 0	1 0	1 0	0 0	0 0	0 0	1 0	0 0	0 10
Wicklow (S), . . .	2 0	2 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	2 0	0 0	1 0	0 0	0 0	0 0	0 0
Wicklow (S), . . .	2 0	2 0	1 0	1 0	1 0	1 0	0 10	1 0	1 0	1 0	0 0	0 10	0 10	1 0	0 0	0 10

(a) For the few weeks of harvest up to 1s. per day is given to men, and proportionately to boys, women, and girls. There is very little employment for boys or girls during the winter season.

(b) They get 1s. with the scale of wages. Women or girls seldom employed in winter time during the winter season.

(c) For a few days in harvest men get from 1s. 6d. to 1s. 8d. per day; women in harvest get 1s. per day, also boys and girls.

(d) Women and girls get little employment in winter time during the winter season.

(e) The average wages for labourers in this district is 1s. 6d. in winter and 1s. 8d. in summer.

(f) The men and boys are supported for the winter days of the year. The women and girls are only supported for six days in the winter of the year.

(g) A general rule is given in addition. Women and girls are only employed a short time in winter during day, and in winter during the winter season.

(h) Labourers as a rule 1s. 1/2 breakfast and dinner is addition to wages.

(i) Men in winter employment with gardeners receive 1s. 6d. per week the year round, with house free. Boys, women, and girls, similarly employed, from 1s. to 1s. per week. Men employed by the day, with various persons, receive from 1s. 6d. to 1s. per day.

(j) Men get 1s. per day in summer. Very few women or girls employed in winter.

II.—PROVINCE OF MUNSTER—continued.

COUNTIES AND CONTAINGARY DISTRICTS.	MEN.								WOMEN.							
	Men.		Boys.		Women.		Girls.		Men.		Boys.		Women.		Girls.	
	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.
	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.
CORK COUNTY, N. H.																
Ballinacorney . . .	2 0	4 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 0	0 0	1 0	0 0	1 0	0 0	1 0
Charleville (A) . .	1 10	4 4	1 0	1 0	1 0	1 0	0 4	1 0	1 0	1 0	0 7	0 11	0 10	1 0	0 7	0 11
Cork, North . . .	1 0	1 0	0 0	1 0	—	—	—	—	0 10	1 0	0 0	0 10	—	—	—	—
Cork, South . . .	0 0	0 0	1 0	1 0	1 0	1 0	1 0	1 4	1 0	0 0	0 10	1 0	0 10	1 0	0 0	1 0
Fermoy . . .	1 7	1 0	1 0	1 0	1 0	1 0	1 0	1 1	1 4	1 0	0 0	0 11	1 0	1 1	0 0	0 11
Kearney . . .	1 0	1 0	0 0	0 10	0 10	0 10	0 0	0 11	1 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Kinsale (A) . . .	1 10	0 0	0 0	0 10	1 0	1 0	0 0	0 10	1 0	1 4	0 0	0 0	0 0	0 10	0 0	0 0
Malin . . .	2 0	0 0	1 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	0 0	0 0	1 0	1 0	1 0	1 0
Middleton (A) . .	1 0	0 0	1 0	1 1	1 1	1 0	0 0	1 1	1 4	1 0	—	—	0 0	1 0	0 0	0 0
Midleton, (A) . .	1 0	0 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 10	0 10	0 10	0 10	0 10	0 10
Newmarket, (A) . .	1 0	1 0	0 10	1 0	1 0	1 0	0 0	0 0	0 11	1 0	0 0	0 10	0 0	0 10	0 0	0 0
Quinstown . . .	1 0	1 1	1 0	1 4	1 1	1 0	0 0	0 10	1 0	1 0	0 0	0 10	0 0	0 10	0 0	0 0
Tougal (A) . . .	1 0	0 0	1 0	1 4	1 2	1 0	1 0	1 4	1 0	1 0	0 10	1 0	1 0	1 0	0 0	0 10
CORK COUNTY (W. H.)																
Bandon . . .	1 0	1 7	0 10	0 10	0 10	1 0	0 0	0 0	1 0	1 0	0 0	0 11	0 0	0 10	0 0	0 0
Bantry (A) . . .	1 0	1 0	0 0	0 10	0 10	—	0 0	0 0	0 0	0 0	0 0	0 0	—	0 0	—	0 0
Castletown (A) . .	1 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	—	—
Clewistown . . .	1 0	1 0	0 10	1 0	0 10	1 0	0 7	0 0	1 0	1 0	0 0	0 10	0 0	0 10	0 0	0 7
Dunmoreway . . .	1 0	1 0	0 0	0 0	0 0	0 10	0 0	0 0	0 0	0 10	0 0	0 0	0 7	0 0	0 7	0 0
Ennis . . .	1 4	2 0	0 0	0 10	0 10	1 0	0 0	0 10	1 0	1 0	0 0	0 10	0 0	0 10	0 0	0 0
Millstreet (A) . .	1 0	1 0	0 10	1 0	0 0	0 10	0 10	0 10	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 10
Skibbereen . . .	1 0	1 10	0 10	1 0	0 10	1 0	0 0	0 10	1 0	1 4	0 0	0 0	0 0	0 10	0 0	0 0
Shan . . .	0 0	0 0	1 0	1 0	0 10	1 0	0 0	0 10	1 0	1 0	0 10	1 0	0 0	0 10	0 0	0 0
KERRY COUNTY.																
Cahersiveen (A) . .	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 4	1 0	—	1 0	—	0 10	1 0
Castletown (A) . .	2 0	0 0	1 0	1 0	0 10	1 0	0 0	0 0	1 0	1 0	0 0	0 10	0 0	0 0	0 0	0 0
Glenties . . .	1 0	0 0	1 0	1 0	0 10	1 0	0 10	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 0
Kemmer . . .	1 0	0 0	0 10	1 4	0 11	1 4	0 10	1 0	1 0	1 0	0 10	1 0	0 11	1 0	0 10	1 1
Milltown . . .	1 0	2 0	0 10	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	0 10	0 0	0 0
Milltown . . .	1 10	2 4	0 10	1 0	1 0	1 0	0 0	1 0	1 4	1 0	0 10	1 0	0 10	1 0	0 0	0 10
Lisnakeel . . .	1 0	2 0	1 0	1 0	1 0	1 0	0 10	1 0	0 10	1 0	0 0	0 10	0 0	0 10	0 4	0 0
Trillick . . .	1 0	0 0	1 0	1 0	1 0	1 4	1 0	1 0	1 0	1 0	0 0	0 10	0 0	0 10	0 0	0 0
LIMERICK COUNTY.																
Adare . . .	0 0	0 0	1 0	1 0	1 0	1 0	1 0	1 4	1 0	1 0	0 10	1 0	0 10	1 0	1 0	1 4
Breda (A) . . .	1 10	0 10	0 11	1 0	1 0	1 0	0 10	1 10	1 10	1 10	0 10	0 10	0 10	0 10	0 10	0 10
Edinacree (A) . .	0 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	0 0	0 0	0 0	0 0	0 0
Limerick . . .	0 0	0 4	1 0	1 0	1 0	1 0	0 10	1 0	1 0	1 0	0 0	0 11	0 11	1 0	0 7	0 0
Newmarket (A) . .	1 0	—	1 1	—	1 0	1 0	0 0	0 10	1 0	1 0	0 7	0 0	0 0	0 10	0 0	0 7
Newmarket . . .	0 0	0 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 10	1 0	0 10	1 0	0 0	0 10
Rockham . . .	0 0	0 0	1 0	1 0	1 0	1 0	0 10	1 4	1 0	1 0	0 11	1 0	0 10	1 0	0 0	0 10

(a) Employment not constant at these rates, especially in winter. Only presswork employment in winter. Very little employment for girls in winter.

(b) For a few weeks in the harvest time a higher rate of wages is given.

(c) In harvest time the scale of wages is much higher than at any other time. Girls are generally employed by the quarter.

(d) With board.

(e) Some in houses are allowed 4 acres of land for potatoes, and others the grass of two sheep, from the farmers, together with the wages paid, then

average boys lived with farmers get from £10 to £12 per year, and girls from £8 to £10 or £12.

(f) These rates include diet.

(g) Wages in summer are raised by the demand for labour at the fisheries. Very few women or girls are employed as agricultural labourers in summer and except in winter.

(h) Very little employment for women and girls.

(i) With diet.

(j) Boys and girls only employed during some months each year.

(k) Including support.

(l) Including diet.

(m) Boys, women, and girls are only employed in the harvest season of the year.

(n) In the District, women and girls are not employed as agricultural labourers during the winter months, except in a few cases.

(o) There is little employment in winter in this District for either boys, women, or girls.

(p) As a general rule all agricultural labourers in this District are hired.

PROVINCE OF MUNSTER—continued.

COUNTIES AND CONTIGUOUS DISTRICTS.	SUMMER.								WINTER.							
	Men.		Boys.		Women.		Girls.		Men.		Boys.		Women.		GIRLS.	
	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.
TIFFINERY CO., N.R.																
Barrickroe, . . .	1 0	1 0	0 8	1 0	1 0	1 0	0 8	1 0	1 0	1 0	0 8	0 10	0 8	0 10	0 8	0 8
Breagh, . . .	2 0	2 0	1	1 0	1 0	1 0	0 8	1 0	1 0	1 0	0 10	1 0	1 0	1 0	0 8	0 10
Neaport, . . .	1 0	2 0	1 0	1 0	1 0	1 0	—	1 0	1 0	1 0	—	0 8	0 8	0 8	0 8	0 8
Burns, . . .	2 0	2 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 10	1 0	0 10	1 0	0 10	1 0
Tomlinson, . . .	2 0	2 0	1 0	2 0	0 0	1 0	1 0	0 0	1 0	1 0	0 8	1 0	0 8	1 0	0 8	0 8
Tulla, (a), . . .	0 0	0 0	1 0	0 0	1 0	1 0	1 0	1 0	1 0	2 0	—	—	—	—	—	—
TIFFINERY CO., S.R.																
Cake, (b), . . .	1 7	1 10	1 4	1 0	0 10	1 4	0 8	1 0	0 10	1 0	0 8	1 0	0 8	0 10	0 8	0 8
Carroll-on-Str (c), . . .	1 0	0 0	0 10	1 0	1 0	1 0	0 8	0 10	1 0	1 0	0 8	0 10	0 8	0 10	0 8	0 8
Cathal, . . .	2 0	2 0	0 8	0 8	1 0	1 0	1 0	1 0	1 0	2 0	0 8	0 8	1 0	1 0	1 0	1 0
Cleland, . . .	2 0	0 0	1 0	1 0	1 0	2 0	1 0	1 0	1 0	1 0	0 10	1 0	1 0	1 0	1 0	1 0
Deafren, . . .	2 0	2 0	1 0	1 4	1 0	1 0	—	1 4	1 0	1 0	—	1 2	—	—	—	—
Edwards (d), . . .	0 0	2 0	1 0	1 0	1 0	1 0	0 0	0 0	1 0	1 0	0 8	0 10	0 10	1 0	0 8	0 8
Tipperary (e), . . .	1 0	1 0	0 10	1 0	1 0	1 0	0 10	0 10	1 0	1 0	0 7 1/2	0 10	0 8	0 8	0 0 1/2	0 8
WATERFORD CO.																
Deppogha (f), . . .	1 0	1 0	1 0	1 4	1 0	1 4	1 0	1 4	1 0	1 0	0 10	1 0	0 10	1 0	0 10	1 0
Dungarvan (g), . . .	1 0	2 0	0 10	1 0	1 0	1 2	0 0	1 0	1 0	1 2	0 8	0 10	0 8	1 0	2 0	0 8
Fertlow, . . .	1 10	0 4	1 0	1 7	1 0	1 0	1 0	1 0	1 1	1 4	0 8	1 0	0 10	1 0	0 8	0 8
Waterford, . . .	1 0	0 0	1 0	1 0	1 0	1 2	0 10	1 0	1 0	1 0	0 10	1 0	0 10	1 0	0 8	0 10

III.—PROVINCE OF ULSTER.

ANTRIM COUNTY.																
Ashtown, . . .	0 0	1 0	1 0	2 0	1 10	2 0	1 8	1 10	1 0	2 0	1 0	1 8	1 0	1 8	0 10	1 0
Ballynure, . . .	1 0	2 0	1 0	1 0	1 0	1 0	0 8	1 0	1 4	1 0	0 8	1 0	0 8	1 0	0 8	0 8
Ballymurray, . . .	2 0	0 0	1 0	1 0	1 0	1 0	1 0	1 0	1 3	1 0	0 8	0 8	0 8	1 0	0 0	0 8
Bellish South (a), . . .	0 0	0 0	1 0	1 0	1 0	1 0	1 0	1 4	2 0	0 0	1 0	1 0	1 4	1 0	1 0	1 4
Bellish West (a), . . .	2 0	2 0	1 0	1 0	1 0	1 0	—	—	1 0	2 0	0 10	1 0	0 10	1 0	—	—
Larne, . . .	2 0	0 0	1 0	1 0	1 0	2 0	0 8	1 0	2 0	0 8	2 0	2 0	1 0	1 0	0 8	0 8
Lisburn, . . .	1 10 1/2	0 4	1 0	1 0	1 0	1 0	0 12	1 0	1 0	1 1 1/2	1 0	1 2	0 10	1 0	0 8	0 10
ARMAGH COUNTY.																
Armagh, . . .	1 0	0 0	1 0	1 0	1 0	1 4	1 0	1 0	1 0	1 0	1 0	1 2	0 8	1 0	0 8	1 0
Enniskerry, . . .	2 0	2 0	1 0	1 0	1 0	1 0	1 0	1 0	0 8	2 0	1 0	1 0	1 0	1 0	1 0	1 0
Kewry (f), . . .	1 0	0 0	1 0	1 0	1 0	—	0 8	—	1 0	1 0	0 8	1 0	0 8	—	—	—
Downpatrick, . . .	1 0	1 10	0 10	1 2	1 0	1 4	0 8	1 0	1 0	1 7	0 8	0 11	0 11	1 0	0 7	0 8
DUNLAW COUNTY.																
Bellishoreagh, . . .	1 0	0 0	1 0	1 0	1 0	1 0	0 10	1 0	1 0	2 0	0 8	1 0	0 8	1 0	0 8	0 10
Carna (g), . . .	0 0	1 0	0 8	1 0	0 10	1 0	0 8	0 8	1 0	0 8	0 8	—	—	—	—	—
Killeshin (h), . . .	1 0	1 0	0 8	1 0	1 0	1 0	0 8	1 0	1 0	1 0	0 8	0 8	0 8	1 0	0 8	0 8
Swanlinbar (i), . . .	1 0	1 0	0 10	1 0	1 0	1 4	0 8	1 0	1 0	1 0	0 8	1 0	0 10	1 0	0 8	0 10
Virginia (j), . . .	1 0	1 10	1 0	1 1	0 10	1 0	2 0	0 10	0 10	1 0	0 7	0 8	0 8	0 8	0 8	0 8

(a) Boys, women, and girls not employed in winter.

(b) With man.

(c) Exclusive of support.

(d) For men the wages would be sixpence per day less for board. For women about fourpence less, and for boys and girls about threepence per day less.

(e) There are very few boys, women, or girls employed as labourers in this district. The women and girls that are employed are chiefly dairy maids.

(f) In harvest time for about one month they get 1s. per day, and women get 1s. 6d. per day including corn.

(g) It is very rarely women and girls are employed.

(h) No change in wages, summer or winter.

(i) No girls employed.

(j) Girls not employed out in the winter.

(k) Women only labour at day, 10s.

(l) This district is more of a pastoral than agricultural, and, with the exception of the耕地, few labourers are employed by the farming class.

(m) In summer months the wages are 1s. 10d. with support. Labourers are generally supported by their employers in this district.

(n) The labourers are supported in addition to wages 10s. 10d.

PROVINCE OF ULSTER—continued.

COUNTY AND TOWNLAND DISTRICT.	SUMMER.								WINTER.							
	Men.		Boys.		Women.		Girls.		Men.		Boys.		Women.		Girls.	
	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.	From.	To.
	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
DOUGHERTY COUNTY.																
Arden Co.	1 0	1 10	0 0	0 11	0 10	1 0	0 0	0 10	1 0	1 0	0 0	0 0	-	-	-	-
Ballyvaughan	1 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	1 0
Bennet	1 4	1 0	0 10	1 0	0 10	1 0	0 0	0 10	1 0	1 0	0 0	0 10	0 0	0 10	0 0	0 0
Donaghadee (D). . . .	1 0	2 0	0 0	1 0	0 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 10
Drumlowry	1 4	1 0	0 10	1 0	0 10	1 0	0 0	0 10	1 0	1 0	0 0	0 10	0 0	0 10	0 0	0 0
Fethard	1 10	1 0	0 10	1 0	0 0	1 0	0 0	0 0	1 0	1 0	0 0	1 0	0 0	0 10	0 0	0 0
Kesh	1 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 0
Raploe (L).	1 0	0 0	0 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	0 0	0 10	1 0	0 0	0 0
Rathfriland (L). . . .	1 2	1 0	0 0	1 0	0 0	1 0	0 0	0 0	1 0	1 0	0 0	0 0	0 0	0 0	0 0	0 0
DOWRY COUNTY.																
Ballyvaughan	1 0	1 0	0 0	1 0	0 0	1 0	0 0	1 0	1 0	1 0	0 0	0 0	0 0	1 0	0 0	1 0
Downpatrick	0 0	0 0	1 10	1 10	1 10	1 0	1 1	1 10	1 0	1 0	1 0	1 0	1 1	1 0	0 10	1 0
Newcastle (L). . . .	1 0	0 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	1 0	1 0
Rathfriland	1 10	0 0	1 0	0 0	1 0	1 0	0 10	1 0	1 0	1 10	0 0	1 0	0 10	1 0	0 0	1 0
FERRISBURGH COUNTY.																
Downpatrick	1 0	1 10	1 0	1 4	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	0 10	0 0	0 10
Stratheden (L). . . .	1 0	1 0	0 0	1 0	0 0	0 0	0 0	0 0	1 0	1 0	0 0	0 0	0 0	0 0	0 0	0 0
Kesh	1 0	0 0	1 0	1 0	0 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	0 0	0 0	0 0
Stratheden (L). . . .	1 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	0 0	-	-	-	-
LONDONDERRY CO.																
Coleraine	1 0	0 0	0 10	1 1	1 0	1 0	0 0	1 0	1 0	1 0	0 0	0 0	0 10	1 1	0 0	0 10
Lisnally	1 0	1 1	0 11	1 10	0 10	1 1	0 0	0 10	1 10	1 10	0 10	0 11	0 0	0 10	0 10	0 0
Londonderry	0 0	0 0	1 0	1 0	1 0	0 0	0 0	1 1	1 10	1 11	0 11	1 0	0 11	1 0	0 0	0 0
Maghera	1 0	2 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 10
MONAGHAN COUNTY.																
Castlemore	1 0	1 0	0 0	1 0	0 0	1 0	0 0	0 10	1 0	1 0	0 0	0 10	0 0	0 11	0 0	0 0
Clonsilla	0 0	0 0	1 0	1 0	1 0	1 0	-	-	1 0	1 0	-	-	-	-	-	-
Monaghan	1 4	1 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 10	1 4	0 0	1 0	0 0	0 10
TYRONE COUNTY.																
Anglican	1 0	0 0	1 0	1 0	1 0	1 0	0 0	1 0	1 0	1 0	0 0	1 0	0 10	1 0	0 0	0 0
Castlemore	1 0	0 0	1 0	1 0	1 0	1 0	0 0	0 10	1 4	0 0	0 10	1 0	0 10	1 0	0 0	0 10
Drumlowry	1 0	1 0	-	1 0	1 0	1 0	0 0	0 10	1 4	1 0	0 10	1 0	0 0	0 10	0 0	0 0
Newcastle (L). . . .	1 10	1 10	0 10	1 0	1 0	1 1	0 10	0 0	1 10	1 10	0 10	1 0	0 10	0 10	0 0	0 0
Omagh (L).	1 0	1 10	1 0	1 0	1 0	1 1	0 0	1 0	1 0	1 1	0 10	1 1	0 10	0 10	0 0	0 10
Stratheden (L). . . .	1 10	1 1	1 0	1 0	1 1	1 0	0 10	1 1	1 4	1 0	1 0	1 0	1 0	1 0	0 0	0 10

40 Very few employed in this district as the farms are small.

41 There is not such employment for day labourers in this district. Nearly all the labourers go to Scotland.

42 Labourers generally have houses of their master's land, and get fuel, milk, &c. Women and girls only employed in little in harvest time. Very few employed in winter months.

43 This is the average when not fed by the master.

44 Food is usually given with these rates of wages. Of course when food is supplied the wages are less by at least 6d.

45 These figures are calculated on the assumption that the persons are boarded while employed.

46 Boys' wages vary, some particularly in spring and harvest. Women and girls are employed except as domestic labourers (where servants in winter).

47 Boys and women are not employed during winter. Girls generally employed by the half-year.

48 The labourers are generally boarded. Withers board men would pay from 1s. 6d. to 2s. 6d. per day, and women from 1s. to 1s. 6d.

49 Their custom for living could be better arranged by day-party living.

50 This is the rate when for food is given by the employer. Almost all the agricultural labourers are engaged by the half-year, and are paid by their employers in this district at wages, for men and boys, ranging from 4s. to 4s. 7d., women and girls from 3s. to 3s. 11d.

IV.—PROVINCE OF CONNAUGHT.

COUNTY AND DISTRICTS	FUNDERS.								WORKERS.							
	Men.		Boys.		Women.		Girls.		Men.		Boys.		Women.		Girls.	
	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
GALWAY COUNTY.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Atlantic, . . .	1 8	1 8	0 10	1 0	1 8	1 4	0 10	1 8	1 8	1 4	0 10	0 10	1 8	1 8	0 8	0 8
Inchicore (A), . .	1 0	1 10	1 1	1 4	1 8	1 8	0 8	0 11	1 1	1 4	0 8	0 11	0 8	0 11	0 8	0 8
Galilee, . . .	1 8	2 8	0 10	1 0	1 8	1 8	0 10	1 8	1 1	0 8	0 10	1 0	1 8	1 8	0 10	1 0
Caroline, . . .	1 0	1 8	0 10	1 0	1 8	1 8	1 8	1 8	0 10	1 8	0 10	1 0	1 8	1 8	1 0	1 0
Dromore (A), . .	1 8	2 8	1 0	2 0	1 8	1 8	1 0	2 0	1 0	1 8	0 10	1 8	1 0	1 8	1 0	1 8
Galilee, . . .	0 8	1 8	1 8	1 8	1 0	1 0	0 8	0 8	1 0	2 8	0 8	1 0	0 10	1 8	0 8	1 0
Gen., . . .	1 2	1 4	1 8	1 8	0 8	0 10	0 8	0 8	1 8	1 8	0 10	1 8	0 8	0 8	0 8	0 8
Longford, . . .	1 4	0 8	0 8	1 0	0 8	1 8	0 8	0 10	0 10	1 8	0 8	0 10	0 8	0 10	0 8	0 8
Mayo (A), . . .	1 8	2 8	0 10	1 0	0 8	0 10	0 8	0 8	1 0	1 8	0 8	0 10	0 8	0 10	0 8	0 8
Capitane, . . .	1 8	2 0	1 8	1 8	1 0	1 8	—	—	1 8	1 8	0 8	1 0	0 8	1 0	—	—
Perenna, . . .	1 8	1 8	0 10	1 8	1 0	1 8	0 8	0 8	1 1	1 8	0 8	0 10	0 10	1 8	0 8	0 8
Roundstone (A), .	1 8	—	0 10	—	0 10	—	—	—	1 8	—	0 8	—	0 8	—	—	—
Spilth (A), . . .	1 8	1 8	0 8	0 10	0 8	0 10	0 8	0 8	0 10	1 8	0 8	0 8	0 8	0 8	0 8	0 8
Tram, . . .	1 1	1 8	0 8	0 10	0 8	0 10	0 8	0 10	1 8	1 8	0 8	0 8	0 8	0 8	0 8	0 8
Woodford (A), . .	1 8	1 8	0 8	1 0	0 8	1 4	0 8	1 8	1 8	1 8	0 8	0 10	0 8	0 10	0 8	0 8
LEINSTER COUNTY.																
Dallanagh (A), . .	1 8	2 8	1 8	1 8	1 0	1 4	0 8	0 10	1 8	1 8	0 8	1 8	1 0	1 8	0 8	0 8
Carleton-on-Roscommon, .	1 8	2 8	1 8	1 8	0 8	0 11	0 8	0 8	1 8	1 8	0 8	0 10	0 8	0 11	0 8	0 8
Dromore (A), . .	1 8	2 8	1 8	1 8	0 8	1 0	0 8	1 8	0 10	1 8	0 8	1 8	0 8	1 8	0 8	1 0
Mananagh (A), . .	1 8	2 8	0 8	1 8	—	—	—	—	1 8	1 8	0 8	0 8	—	—	—	—
Mohr (A), . . .	0 8	2 8	1 8	1 8	—	—	—	—	1 8	1 8	0 8	1 0	—	—	—	—
MAYO COUNTY.																
Ballynagaven, (A), .	1 8	1 8	0 10	1 8	0 10	1 0	0 10	1 0	1 8	1 8	0 8	1 8	0 10	0 10	0 10	0 10
Belm, . . .	1 8	1 8	1 8	1 8	0 10	1 0	0 8	0 11	1 8	1 4	0 10	1 0	0 8	0 10	0 8	0 11
Ballynagaven (A), .	1 8	2 8	0 8	1 8	0 8	1 1	0 8	0 11	1 8	1 4	0 8	0 10	0 8	0 10	0 7	1 8
Belm, . . .	1 8	—	1 8	—	1 8	—	0 8	—	1 8	—	0 10	—	0 10	—	0 8	—
Carleton (A), . .	1 8	1 8	0 11	1 8	0 8	0 11	0 8	0 11	1 8	1 8	0 8	0 10	0 8	0 10	0 8	0 10
Charlemore (A), . .	1 8	1 8	0 10	1 8	0 8	1 0	0 8	1 8	1 8	1 4	0 8	1 8	0 8	0 10	0 8	0 8
Newport, . . .	1 8	2 8	1 8	1 8	1 0	1 0	0 10	0 10	1 8	0 8	1 8	1 8	1 8	1 8	0 10	0 10
Belm (A), . . .	1 8	1 8	0 8	1 8	1 0	1 8	0 8	0 8	1 8	0 8	0 8	0 8	1 8	1 8	0 8	0 8
Westport (A), . .	1 4	1 8	0 10	1 8	0 10	1 8	0 8	0 10	1 8	1 8	0 8	0 8	—	—	—	—
ROSCOMMON COUNTY.																
Albion, . . .	1 4	1 8	1 8	1 8	1 8	1 8	0 10	1 8	1 8	1 8	0 10	1 8	0 10	0 10	0 10	0 10
Boyle (A), . . .	1 7	0 8	0 8	1 8	—	—	—	—	1 8	1 8	0 8	1 8	—	—	—	—
Carleton, . . .	1 8	1 8	1 8	1 8	1 8	1 8	0 10	1 8	1 8	1 8	0 10	1 8	1 8	1 8	0 10	1 8
Carleton, (A), . .	1 8	1 8	1 8	—	1 8	—	—	—	1 8	—	0 8	—	1 8	—	—	—
Carleton, . . .	0 8	2 8	1 8	1 8	1 8	1 8	0 8	1 8	1 8	1 8	1 8	1 8	0 8	1 8	0 8	0 10
SLIGO COUNTY.																
Collegist, . . .	2 8	3 4	0 10	1 8	0 10	1 8	0 8	0 10	1 4	1 8	0 8	0 10	0 8	0 10	0 8	0 10
Collegist (A), . .	1 8	1 7	1 8	1 8	—	—	—	—	1 1	1 4	0 8	1 8	—	—	—	—
Knock, . . .	1 8	1 8	0 10	1 8	1 8	1 4	0 8	0 10	1 10	1 4	0 8	0 8	0 10	0 10	0 8	0 8
Sligo, . . .	1 4	1 11	0 10	1 8	0 8	0 10	0 8	0 7	1 8	1 8	0 8	0 10	0 8	0 8	0 8	0 8
Collegist, . . .	1 8	1 8	0 8	0 10	0 10	0 11	0 8	0 8	0 10	1 8	0 7	0 8	0 8	0 8	0 8	0 8

- (A) No women or girls employed in this district during summer or winter. No women or girls employed in this district during winter months.
- (B) The highest rate paid to mowers. These fluctuate in certain localities according to the urgency of the labour to be performed and the number of labourers available.
- (C) No employment for women and girls in winter.
- (D) The labourers are very poor indeed in this district.
- (E) Very few women or girls employed as day labourers, serve as charwomen.
- (F) Little or no employment in this district.
- (G) With roads.
- (H) The men and boys during summer months are employed, hired, in the houses in which employed. The women and girls are engaged by the year or season in this district and not employed on farms.
- (I) A never see any working women or girls as agricultural labourers, as they work on their own holdings of their own.
- (J) Very little employment given in this district. The labourers go to England in the summer. Hardly any employment given in the winter season.
- (K) Labourers working on the land are in very easy position, as they are in very easy position.
- (L) There is very little employment in this district for agricultural labourers.
- (M) Women and girls are employed in part of the district. Several labourers occasionally get higher rates.
- (N) The employment of agricultural labourers in this district is but very little, as there are no large farmers, and those with small holdings do their own work.
- (O) Women are employed in winter as agricultural labourers.
- (P) There are no women or girls employed as labourers in this district.
- (Q) No employment for girls in this locality.
- (R) No women or girls employed.

*Loans for Labourers' Dwellings under Labourers Acts.*Loans for
Labourers'
Dwellings.

It would appear from the report of the Local Government Board for Ireland for the year ended 31st March, 1891, that from the inception of these Acts up to that date, loans for the erection of 22,938 cottages were applied for by various Boards of Guardians, and that loans to the amount of £1,205,849 were sanctioned for the erection of 11,510 cottages.

Out of the 11,510 houses authorized, 8,083 have been provided, and 7,947 of these actually let (at weekly rents varying from 8d. to 2s.), and 916 others were in process of erection at the date of the Report.

It is also stated in the same report that further improvement schemes are about to be submitted, embracing 2,573 cottages at an estimated cost of about £314,610.

It would appear from the report of the Commissioners of Public Works for the year ended 31st March, 1891, that 692 loans to private persons, for this class of work, were sanctioned since the passing of the Act 23 Vic., c. 19, the total amount of the loans being £233,530.

*Agricultural Schools.*School
Farms, &c.

The following information is extracted from the report of the Commissioners of National Education in Ireland for the year 1890:—

The total number of school farms in connection with ordinary National Schools on the 31st December, 1890, was 47. The total number of pupils examined in agriculture in this class of schools was 701, of whom 585 passed in the agricultural programme.

There were also 29 schools having school gardens attached; the number of pupils examined in the school gardens was 437, of whom 337 passed.

Dairy Manage-
ment.

The number of pupils who attended at the Glasnevin establishment during the two sessions was 51. The Royal Dublin Society has continued its aid by offering money prizes and free studentships for competition amongst the pupils, both at this school and at that in Cork.

The dairy school at Cork has done very useful work during the year. The attendances have been—30 at the first and second and 29 at the third session.

There is also a very useful dairy school at the Marlborough-street Training College, attendance at which is voluntary, for the female Queen's scholars. A project is in contemplation by which instruction in dairying may be brought within the reach of farmers' families through the agency of travelling instructors. An experiment of this class was made in 1888 with marked success.

FRUIT CULTIVATION.—TURF BOG.

Fruit Culture
trees—Graft
Dug.

Arrangements have been made, in connection with the Agricultural Statistics for 1891 to obtain information with reference to the area planted with fruit trees, &c., and to the area occupied by turf bog.

In conclusion I have to thank the occupiers and owners of land in general for their courtesy in supplying the information required for the various Agricultural Returns to the Enumerators. I have also to express my thanks to the District Inspectors of the Royal Irish Constabulary and the Sergeants of the Metropolitan Police, who have furnished the valuable notes on the local circumstances affecting agriculture in the various parts of the country, which will be found at pages 79 to 90; and to add, as I do, with much pleasure, that the Enumerators discharged their duty with their usual efficiency.

I have the honour to remain

Your Excellency's faithful servant,

T. W. GRIMSHAW,
Registrar-General.

GENERAL REGISTER OFFICE,
CHARLEMONT HOUSE, DUBLIN,
21st August, 1891.

TILLAGE; MEADOW AND CLOVER; &c.

TABLE 3.—Showing, by PEEK LAW UNIONS, the NUMBER of HOLDINGS, their SIZE in STATUTE ACRES, and the DIVISION of LAND in the Year 1890—continued.

FOUR LAW UNIONS.	NUMBER OF HOLDINGS AND THEIR SIZE IN STATUTE ACRES.								Total Acres of Statute Area.	Extent of Land.										Tons.
	Not enclosing.									Crops, including New and Old.	Other.									
	Less.	< 1/2.	> 1/2.	< 1/2.	> 1/2.	< 1/2.	> 1/2.	< 1/2.			Grass.	Timber.	Woods and Plantations.	Reg. Marsh.	Roads, Watercourses, &c.	Water, Ponds, &c.				
Gloucester.	481	418	1,218	1,418	1,418	313	134	47	4,436	36,480	31,400	15	1,684	12,132	841	1,488	134,880	134,880	134,880	
Gloucester.	189	361	2,628	1,418	1,418	442	302	27	4,469	33,441	43,120	183	401	22,553	43,120	1,488	134,880	134,880	134,880	
Gloucester.	189	516	798	505	447	302	85	33	2,780	33,284	42,465	43	1,647	8,015	1,647	8,015	134,880	134,880	134,880	
Gloucester.	438	185	266	447	325	187	423	146	10	3,044	124,648	169	7,700	12,814	16,000	7,700	134,880	134,880	134,880	
Gloucester.	334	397	167	358	285	143	143	14	2,644	33,321	27,837	9	1,374	12,148	14	4,038	134,880	134,880	134,880	
Gloucester.	55	30	275	478	349	427	163	30	2,160	36,613	58,400	400	2,500	21,200	62,251	7,261	134,880	134,880	134,880	
Gloucester.	258	484	1,613	693	377	40	51	11	3,427	15,338	35,771	6	4,686	401	10,074	2,146	134,880	134,880	134,880	
Gloucester.	353	365	1,013	815	479	405	161	48	3,224	17,893	44,888	65	1,372	813	691	691	134,880	134,880	134,880	
Gloucester.	45	62	514	304	437	284	45	50	1,588	12,132	38,125	38	700	4,388	4,388	2,000	134,880	134,880	134,880	
Gloucester.	89	122	356	443	170	153	89	56	1,481	1,681	35,360	3	590	26,541	51,737	5,200	134,880	134,880	134,880	
Gloucester.	259	322	465	684	685	387	307	108	38	4,274	34,128	104,887	14	7,092	35,275	74,484	7,261	134,880	134,880	
Gloucester.	713	128	113	70	16	169	180	48	3,014	3,105	44,126	34	990	6,929	6,929	6,929	134,880	134,880	134,880	
Gloucester.	444	384	827	877	628	118	278	33	2,736	33,218	53,344	89	9,688	1,470	4,032	4,032	134,880	134,880	134,880	
Gloucester.	280	513	180	180	180	180	180	180	180	180	180	180	180	180	180	180	134,880	134,880	134,880	
Gloucester.	164	160	160	280	280	280	280	280	280	280	280	280	280	280	280	280	134,880	134,880	134,880	
Gloucester.	585	324	84	901	484	845	148	30	1,387	31,837	47,098	45	1,588	2,640	31,844	3,885	134,880	134,880	134,880	
Gloucester.	180	116	350	435	468	368	113	43	1,508	26,854	44,126	35	591	6,971	51,009	3,885	134,880	134,880	134,880	
Gloucester.	199	146	720	408	404	434	147	10	1,116	45,468	57,819	38	3,333	15,753	58,753	6,927	134,880	134,880	134,880	
Gloucester.	618	408	662	668	708	648	193	33	2,492	42,571	37,000	47	4,668	3,596	4,668	4,668	134,880	134,880	134,880	
Gloucester.	481	788	1,738	1,214	800	272	12	14	1,616	47,537	55,329	19	1,608	476	805	6,984	134,880	134,880	134,880	
Gloucester.	426	181	94	473	875	619	128	54	7	2,220	18,608	42,898	34	3,885	2,061	28,188	4,078	134,880	134,880	
Gloucester.	193	288	614	603	803	844	342	1	3	4,805	26,126	42,467	27	7,224	5,130	4,228	5,217	134,880	134,880	
Gloucester.	263	584	845	603	803	844	342	1	3	2,548	32,122	42,898	18	2,663	2,663	2,663	2,663	134,880	134,880	
Gloucester.	293	175	546	267	638	401	218	50	8	3,478	57,506	42,467	364	1,654	8,103	26,048	144,737	134,880	134,880	
Gloucester.	855	685	1,264	1,134	484	214	78	33	8	3,885	57,545	42,467	44	1,787	16,494	540	477	134,880	134,880	
Gloucester.	420	434	1,738	1,214	800	272	12	14	4,432	27,448	115,777	780	4,636	16,106	27,448	1,413	134,880	134,880	134,880	
Gloucester.	484	1,585	1,517	934	423	355	10	1	2,624	26,241	37,000	3	2,624	26,241	37,000	3	2,624	134,880	134,880	
Gloucester.	284	84	148	341	484	845	437	87	5	2,613	26,241	37,000	4	2,613	10,740	36,349	4,078	134,880	134,880	
Gloucester.	277	894	1,514	2,074	484	238	60	22	8	7,805	46,758	57,805	4	1,789	10,740	12,679	7,038	134,880	134,880	
Gloucester.	206	185	347	845	804	346	347	14	2,277	26,241	37,000	30	3,178	2,023	14,258	6,154	134,880	134,880	134,880	
Gloucester.	176	367	1,547	1,712	719	366	78	33	4	4,770	36,360	78,460	26	1,504	6,770	28,889	4,078	134,880	134,880	
Gloucester.	228	141	346	427	574	420	355	45	5	2,916	27,777	42,778	79	3,020	1,504	4,278	4,078	134,880	134,880	
Gloucester.	177	879	1,719	1,670	413	584	13	17	6	2,648	56,228	76,468	14	870	10,888	26,458	6,081	134,880	134,880	
Gloucester.	38	48	129	183	268	118	126	30	8	1,761	31,392	43,480	3	740	2,896	5,929	2,240	134,880	134,880	

TABLE 4.—Showing, by Poor Law Unions, the Proportion per Cent under Crops (including Meadow and Clover), Grass, Fallow, Woods and Plantations, Bce and Marsh, Barren Mountain Land, and Water, Boggs, and Fens, &c., in 1899.

[illegible]

TABLE 5.—SHOWING, BY COUNTIES AND PROVINCES, THE EXTENT OF LAND

COUNTIES.	EXTENT UNDER CROPS											
	CEREALS, BEANS, AND FRUIT.											
	Wheat.	Oats.	Rye.	Barley.	Spelt.	Buckwheat.	Peas.	Beans.	Potatoes.	Turnips.	Other Crops.	Total.
ARMSTRONG,	2,114	60,047	823	8	83	1,183	53	73,396	47,433	10,131	279	100,000
ARMSTRONG,	3,579	80,708	101	10	170	180	84	81,828	36,356	7,670	713	120,000
ARMSTRONG,	5,059	90,218	8,069	8	8	2	1	22,231	8,018	4,627	630	120,000
CANADIAN,	428	20,543	28	6	162	3	1	85,213	28,019	3,083	821	120,000
CHARTER,	2,513	12,539	640	24	1,061	63	10	16,847	21,799	5,311	2,704	120,000
CHARTER,	22,800	84,773	27,076	8	589	7	3	124,381	80,730	30,889	8,683	200,000
CHARTER,	848	89,625	1,323	14	1,031	183	107	62,483	45,437	16,257	725	120,000
CHARTER,	13,982	189,792	303	20	62	303	63	118,846	68,132	10,086	500	200,000
CHARTER,	4,518	15,486	1,361	8	114	13	83	28,896	8,240	2,432	800	120,000
CHARTER,	667	15,426	37	29	282	19	1	20,712	15,060	6,729	766	120,000
CHARTER,	6,328	45,386	3,264	60	2,096	26	47	63,281	43,262	12,586	2,442	120,000
CHARTER,	2,377	24,177	2,425	4	823	6	15	38,325	28,194	8,583	2,586	120,000
CHARTER,	1,360	26,617	10,743	50	287	25	3	33,747	8,766	10,212	1,250	120,000
CHARTER,	8,848	81,478	17,033	8	1	8	4	58,874	16,641	8,770	1,673	120,000
CHARTER,	436	16,638	26,687	30	748	1	1	28,787	12,008	9,814	1,243	120,000
CHARTER,	34	11,355	13	3	408	8	1	11,688	16,645	1,116	273	120,000
CHARTER,	8,739	36,647	812	9	76	4	1	38,219	18,682	5,186	1,623	120,000
CHARTER,	1,362	21,665	882	1	476	188	6	23,673	81,883	13,911	523	120,000
CHARTER,	547	18,828	18	7	133	9	1	14,031	11,845	2,584	482	120,000
CHARTER,	1,645	24,310	14,803	8	18	36	38	48,104	11,876	8,886	340	120,000
CHARTER,	1,628	46,684	740	8	8,779	1	23	64,212	46,870	7,039	318	120,000
CHARTER,	1,635	22,826	1,623	6	261	19	1	26,632	11,194	6,136	1,153	120,000
CHARTER,	908	46,686	888	9	74	22	11	47,180	26,480	8,358	1,687	120,000
CHARTER,	867	26,819	26,483	23	21	2	1	45,219	18,646	11,778	1,768	120,000
CHARTER,	437	22,219	181	8	1,231	1	1	24,078	24,318	4,712	560	120,000
CHARTER,	684	18,628	283	11	482	2	1	28,377	16,417	3,519	721	120,000
CHARTER,	7,662	43,186	21,677	27	335	1	1	73,531	81,880	10,924	2,687	120,000
CHARTER,	1,078	86,385	41	8	436	35	1	69,693	42,963	16,607	628	120,000
CHARTER,	1,625	27,806	1,469	1	45	1	1	30,826	14,116	6,012	1,571	120,000
CHARTER,	89	17,858	373	4	184	2	1	17,680	16,284	4,028	1,567	120,000
CHARTER,	8,543	48,363	11,914	1	26	1,878	1	68,566	22,083	17,684	3,136	120,000
CHARTER,	1,117	29,888	853	8	7	1	1	32,669	10,185	3,545	606	120,000
PROVINCES.												
CHARTER,	26,675	277,819	228,670	141	1,828	1,490	109	436,785	181,314	84,789	16,254	620,000
CHARTER,	31,130	316,896	64,139	66	3,348	74	31	396,563	175,668	73,660	19,884	570,000
CHARTER,	26,635	280,218	4,545	84	8,348	7,109	419	416,489	203,666	66,881	1,600	620,000
CHARTER,	8,822	144,216	4,731	89	7,318	32	23	165,387	146,418	20,085	1,221	320,000
TOTAL.	55,841	1,229,018	187,866	276	14,558	8,718	636	1,814,784	780,860	285,360	46,457	2,826,000

TOWN CROPS IN THE YEAR 1890, THE VALUATION IN 1890, AND THE POPULATION IN 1881.

STATISTICAL SERIES.

CROPS.						CROPS FOR THE YEAR 1890.				TOTAL CROPS CROPS.	POPULATION IN 1881.	COUNTRY.
Cereals and Potatoes.	Cereals.	Vegetables.	Spices.	Other Crops.	Total.	Wheat.	Corn, Oats, Rye, and Barley.	Peas and Beans.	Turnips and Potatoes.			
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	£		
32	202	377	48	764	54,800	16,106	31,762	45,514	241,364	1,270,118	421,843	ARTICHOKE.
39	303	370	65	307	36,810	6,967	31,823	21,440	131,203	423,268	163,177	ARTICHOKE.
100	739	3	87	361	16,313	.	14,286	16,403	76,063	354,636	46,068	CARROT.
51	1,477	66	36	1,368	51,760	8,030	38,258	55,116	156,118	374,824	126,476	CARROT.
72	1,644	17	18	638	22,660	22	5,181	84,226	123,636	315,823	140,487	CARROT.
403	4,711	1,312	826	2,418	109,092	506	45,669	139,649	463,113	1,236,826	421,607	CARROT.
33	2,665	582	47	1,368	61,200	1,606	21,268	44,816	226,414	537,603	286,636	CARROT.
114	634	632	106	2,134	76,036	10,022	65,416	11,562	265,776	866,646	372,107	CARROT.
180	663	54	6	2,644	14,600	.	12,146	30,363	76,761	1,166,764	416,116	CARROT.
42	539	65	37	633	21,606	2,416	7,366	34,611	116,176	265,636	54,626	CARROT.
76	2,100	264	3,616	368	61,406	7	12,126	79,691	263,711	674,666	342,365	CARROT.
58	4,666	86	243	873	41,526	36	6,766	63,777	146,666	266,263	266,263	CARROT.
60	866	37	187	476	21,601	.	17,603	36,637	111,667	326,766	33,604	CARROT.
64	1,743	41	10	411	30,660	.	23,446	36,663	146,346	316,414	67,621	CARROT.
33	677	36	660	626	26,266	.	11,667	26,223	116,663	246,673	72,633	CARROT.
4	1,402	6	16	406	26,636	66	366	43,666	60,226	136,636	66,272	CARROT.
104	2,216	60	116	369	56,636	4	7,739	67,667	146,436	366,636	166,636	CARROT.
36	436	116	73	1,363	47,662	14,412	32,770	16,617	166,476	367,636	166,636	CARROT.
37	633	46	42	676	16,666	66	3,661	26,666	66,666	166,666	61,666	CARROT.
52	587	116	.	621	21,660	326	16,666	6,666	66,666	166,666	77,666	CARROT.
10	2,146	360	160	1,036	56,436	116	8,662	27,661	146,666	314,662	216,212	CARROT.
110	461	46	66	1,676	26,263	46	16,421	62,661	226,266	347,361	67,466	CARROT.
62	660	660	66	1,036	32,717	1,666	24,666	14,726	126,666	263,667	166,216	CARROT.
36	600	54	143	609	26,636	.	16,166	36,226	166,666	266,666	74,166	CARROT.
18	1,064	16	662	666	32,736	3	6,226	36,361	126,323	266,363	166,666	CARROT.
41	1,061	26	6	661	24,226	7	4,464	61,606	67,766	216,766	111,676	CARROT.
226	5,134	166	267	665	56,436	.	31,212	36,226	261,266	666,263	166,612	CARROT.
106	1,603	366	66	2,426	65,466	17,667	34,226	36,463	266,416	426,221	167,166	CARROT.
106	1,763	73	7	616	16,666	.	11,266	11,262	76,136	212,266	112,766	CARROT.
116	606	47	262	623	16,666	1	6,766	43,161	66,226	316,226	77,266	CARROT.
104	2,066	366	66	623	46,664	66	27,244	26,227	166,436	376,623	226,244	CARROT.
71	763	16	186	646	16,176	1	16,466	67,477	161,716	374,360	76,266	CARROT.
1,146	16,616	676	1,674	8,617	264,766	462	167,666	411,247	1,261,661	4,746,662	1,261,662	CARROT.
1,967	12,364	1,662	1,667	8,666	267,600	262	111,666	461,316	1,367,666	3,374,663	1,362,116	CARROT.
686	6,603	6,664	661	11,662	426,276	56,216	226,666	307,743	1,246,133	4,426,666	1,746,673	CARROT.
186	6,766	267	3,665	8,666	166,636	226	35,666	266,217	666,661	1,666,176	67,662	CARROT.
5,136	41,661	6,026	7,267	26,437	1,214,662	56,266	626,616	1,466,616	4,216,726	12,347,663	5,174,666	TOTAL.

* The slight difference between the Total Valuation by Counties and that by Unions is accounted for by the fact that the County and Union Ratings do not take effect at the same point of the year.

PRODUCE OF THE CROPS IN THE YEAR 1890.

THE CROPS.

Grain Crops.								Hay.			COUNTY.
Barley.	Oats.	Wheat and Rye.	Maize and Potatoes.	Calves.	Wheat.	Barley.	Hay.	Hay.	Hay.		
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
144,908	146,728	3,061	824	1,770	7,025	804	646,779	116,246	120,371	ANTWERP.	
86,069	95,725	10,220	463	2,730	2,821	606	226,811	55,711	56,868	BRUSSELS.	
27,096	48,060	5,064	918	2,703	66	300	-	36,619	35,448	CHATELAIN.	
55,462	44,880	6,274	467	15,813	801	471	187,160	67,206	107,845	CHATELAIN.	
25,945	61,664	81,203	406	18,345	222	84	573	11,894	174,690	CHATELAIN.	
81,078	206,545	126,023	4,006	26,161	13,187	2,504	7,828	111,448	202,184	CHATELAIN.	
49,180	206,672	5,018	423	22,280	8,563	673	246,280	87,428	51,228	CHATELAIN.	
186,273	281,032	14,613	1,103	7,274	7,234	1,053	673,900	164,761	26,548	CHATELAIN.	
33,482	24,317	14,182	1,800	18,192	170	84	-	26,819	66,218	CHATELAIN.	
20,255	44,672	14,168	400	6,180	683	140	48,228	18,802	141,360	CHATELAIN.	
83,961	167,629	33,723	568	19,740	1,424	26,179	176	28,825	122,628	CHATELAIN.	
35,316	61,422	24,123	717	22,464	802	1,630	206	15,406	169,112	CHATELAIN.	
31,086	106,180	21,067	908	4,280	265	2,620	-	36,847	70,467	CHATELAIN.	
35,794	126,781	22,062	486	14,216	236	107	-	48,220	73,240	CHATELAIN.	
33,179	180,816	61,343	724	6,621	672	3,101	-	24,296	61,279	CHATELAIN.	
26,710	14,225	4,581	82	16,848	84	122	731	3,200	107,145	CHATELAIN.	
36,283	76,754	24,668	2,179	18,121	440	651	190	12,481	223,029	CHATELAIN.	
130,288	246,762	3,269	748	6,814	1,643	320	251,077	65,349	36,263	CHATELAIN.	
24,224	220,228	6,248	876	16,800	420	402	1,370	19,264	73,467	CHATELAIN.	
49,089	143,128	7,724	480	3,718	1,360	-	10,620	37,127	37,007	CHATELAIN.	
79,514	101,361	10,221	86	22,551	679	1,461	5,163	22,367	77,729	CHATELAIN.	
50,671	121,732	23,245	1,654	7,634	348	436	1,760	21,229	128,118	CHATELAIN.	
43,636	186,668	11,742	425	3,381	715	346	270,762	36,811	26,246	CHATELAIN.	
43,660	284,032	24,547	522	8,034	331	1,383	-	48,221	67,608	CHATELAIN.	
57,476	61,096	11,830	164	28,027	140	3,346	80	13,826	148,228	CHATELAIN.	
44,626	40,431	19,846	826	16,083	220	24	205	10,618	61,102	CHATELAIN.	
69,856	208,128	24,272	1,664	20,207	1,640	1,967	-	66,967	261,780	CHATELAIN.	
116,832	226,544	8,110	720	6,190	1,778	579	190,261	71,248	92,267	CHATELAIN.	
22,553	83,267	23,344	1,671	10,762	480	30	-	28,983	20,260	CHATELAIN.	
96,518	73,083	18,248	389	12,544	590	2,651	80	17,812	67,453	CHATELAIN.	
52,848	246,461	13,486	1,729	18,611	664	236	1,200	52,218	67,204	CHATELAIN.	
21,886	82,612	13,180	464	6,280	53	1,284	30	25,793	65,162	CHATELAIN.	
PROVINCES.											
261,412	1,488,747	234,188	8,671	116,440	8,070	17,670	14,428	452,718	665,968	CHATELAIN.	
261,880	537,341	223,869	10,856	139,487	12,022	8,800	8,200	247,561	1,023,560	CHATELAIN.	
876,408	1,424,067	70,367	3,847	74,384	61,456	4,126	8,284,180	68,936	781,148	CHATELAIN.	
207,260	208,023	71,269	1,126	68,800	2,646	28,711	4,168	74,302	686,448	CHATELAIN.	
1,600,422	4,234,770	663,661	27,265	422,619	20,612	37,369	4,230,228	1,200,900	3,225,961	TOTAL.	

TABLE 7.—SHOWING BY POOR LAW UNIONS, THE EXTENT OF LAND

POOR LAW UNIONS.	COWS, HORSES, AND PIGS.										EXTENT UNDER CROPS		
											Tons.	Bushels.	Acre Feet.
	Wheat.	Barley.	Oats.	Hay.	Straw.	Peas.	Beans.	Turnips.	Other.	Other.			
	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.			
ABERTHAW,	296	6,649	7,017	12	6	1		13,794	4,665	6,780	581	88	
ADRIAN,	411	13,041	33		2	199	30	13,033	7,732	1,784	83		
ADRIAN,	421	6,330	4,032		2	84	20	13,068	2,980	3,780	293		
ADRIAN,	1,799	24,815	25		118	85	20	30,093	12,264	4,607	310		
ADRIAN,	88	4,337	35	4	198	2		4,834	4,627	1,732	437		
ADRIAN,	1,150	10,391	14,363	14	89	2		25,362	4,927	7,332	871		
BALDWIN,	31	3,336			14			7,329	4,438	38	194		
BALDWIN,	12	6,165	134	4	149		30	5,473	3,480	1,104	121		
BALDWIN,	86	4,977	225	1	224			4,457	3,849	1,700	408		
BALDWIN,	1,791	4,130	63		121			4,979	4,000	1,709	309		
BALDWIN,	2	8,377	420	2	2	671	1	3,338	4,078	1,318	16		
BALDWIN,	102	4,117	2		30			4,344	2,188	373	330		
BALDWIN,	151	14,930	35		29	1		15,118	17,563	1,304	121		
BALDWIN,	10	16,410	2		1	7		16,443	8,811	2,314	37		
BALDWIN,	180	2,796	2	4	100	46		3,119	2,740	369	312		
BALDWIN,	495	635	441		4	16		1,600	835	343	86		
BALDWIN,	1,434	4,673	1,563	2	104	2	10	7,497	8,283	344	256		
BALDWIN,	80	7,713	791					8,542	2,474	1,739	304		
BALDWIN,	642	20,000	10	1	2	7		22,044	9,976	3,721	69		
BALDWIN,	965	7,373	760		1			8,098	2,649	3,683	630		
BALDWIN,	151	1,923			8			2,100	2,299	654	107		
BALDWIN,	44	4,165			36			4,201	4,299	107	64		
BALDWIN,	218	2,582	2			10		2,594	1,800	306	73		
BALDWIN,		8,160	807		805			4,085	6,854	306			
BALDWIN,	210	3,746	6,671	1	16			10,772	2,365	3,634	479		
BALDWIN,	335	5,509	43	2	208	2	1	6,587	7,380	748	239		
BALDWIN,	1	3,603			29			3,631	4,394	674	298		
BALDWIN,	2,654	3,238	1,173		8			3,897	5,616	1,311	213		
BALDWIN,	2,682	14,130	4,754	10	4	9		9,149	7,880	2,088	602		
BALDWIN,	489	6,725	793		8	0	7	10,074	4,810	2,006	382		
BALDWIN,	30	3,079	2		108			3,598	2,236	608	145		
BALDWIN,	739	4,042	35		2			4,062	2,731	1,346	430		
BALDWIN,	1,844	7,330	1,639		2			11,508	4,534	2,225	430		
BALDWIN,	113	5,937	46	4	164			6,119	8,613	1,002	39		
BALDWIN,	6	14,169	30		2	2		14,703	7,650	1,550	38		
BALDWIN,	905	2,490	1,310					2,916	2,934	747	332		
BALDWIN,	35	6,100			6			6,435	3,615	1,009	4		
BALDWIN,	295	3,330	26	8	118			3,442	3,801	1,009	32		
BALDWIN,	19	3,294	26		18			3,317	3,334	407	10		
BALDWIN,	821	11,308	22	3	107	1		12,422	18,380	880	300		
BALDWIN,	913	4,430	310	1		22		5,399	1,630	1,140	2,9		
BALDWIN,	36	5,640	27		203			6,100	6,612	1,410	74		
BALDWIN,		5,137	272	2	605			5,400	2,289	311	180		
BALDWIN,	2,709	6,257	67	2	16			6,484	4,483	1,095	244		
BALDWIN,	220	11,077	2					11,368	5,035	1,791	182		
BALDWIN,	1,605	8,244	1,820		7			7,768	3,691	2,132	630		
BALDWIN,	419	5,504	19	5	85	3		6,011	3,774	3,617	287		
BALDWIN,	1,784	3,556	38					4,794	2,677	680	122		
BALDWIN,	83	15,021	625		25	38	24	15,807	8,978	3,811	120		
BALDWIN,	527	15,344	6	2	127			16,246	7,685	2,295	130		
BALDWIN,	89	12,890	6		6	2	1	13,794	1,161	2,312	84		
BALDWIN,	645	14,634	5,072		15	5	2	17,327	3,860	4,280	1,390		
BALDWIN,	315	630	87		15	12		1,398	1,106	490	185		
BALDWIN,	1,819	2,303	121			8		2,136	2,244	837	290		
BALDWIN,	14	2,400	12		22			2,461	1,734	1,076	203		
BALDWIN,	39	2,880	203		189	2		3,300	2,000	535	182		
BALDWIN,	68	4,090	60	4	203	27	1	5,372	4,663	905	80		
BALDWIN,	7,295	20,613	40	14	20	84	20	33,871	12,002	8,472	206		
BALDWIN,	302	7,417	2,070		6	7		11,552	2,794	5,671	184		
BALDWIN,	119	4,779	420	4	164			4,697	3,790	1,291	137		
BALDWIN,	1,281	2,211	410		33	11	43	4,104	1,678	2,23	130		
BALDWIN,	578	2,860	46					2,932	1,399	371	179		
BALDWIN,	303	14,134	5,419	5	15	4		16,616	8,517	4,382	591		
BALDWIN,	5	4,483	80	4	179	1	4	4,965	6,471	684	25		
BALDWIN,	493	18,468	10	1	83	5		17,704	5,085	2,380	170		
BALDWIN,	201	4,914	380	7	54			5,409	3,093	1,659	805		
BALDWIN,	820	2,403	2		1			2,408	3,690	1,000	120		
BALDWIN,	270	2,630	15	1	1			2,630	1,218	672	179		
BALDWIN,	125	6,804	1,025	3	853			8,546	8,546	2,350	493		
BALDWIN,	405	3,276	85	2	86	10	6	3,608	2,379	1,686	445		
BALDWIN,	8,827	15,703	10,715					17,171	3,235	3,820	1,006		
BALDWIN,	170	7,403	9		96	2	1	7,507	6,027	1,860	211		
BALDWIN,	206	8,27	62	7	178	3		8,393	3,382	1,000	435		
BALDWIN,	476	13,204	225		13		5	14,222	4,561	3,894	439		
BALDWIN,	1,725	8,512	781	14	275	53	41	8,909	6,780	2,637	830		
BALDWIN,		3,203	2		30			3,203	4,666	1,030	80		
BALDWIN,		7,018	113		732			7,018	6,690	460	5		
BALDWIN,	120	1,061	108		6			1,179	1,774	301	157		
BALDWIN,	2,611	10,647	1,776			113		14,539	4,597	2,301	561		
BALDWIN,	1,401	2,990	208		27		1	8,328	3,427	1,403	230		

CEREAL CROPS IN THE YEAR 1890, THE VARIATION IN 1890, AND THE POPULATION IN 1881.

IN STATUTE ACRES.

CEREAL CROPS.						CEREAL CROPS FOR THE YEAR 1890.				Total Statute Acres Cereals.	Population in 1881.	POOR LAW UNIONS
Wheat.	Oats.	Barley.	Rye.	Other Cereals.	Total.	Area.	Statute Acres.	Statute Acres.	Statute Acres.			
44	261	7	29	55	3,702	5,519	5,519	5,519	5,519	5,519	21,545	ABERDEEN.
11	159	29	50	182	10,669	11,465	11,465	11,465	11,465	11,465	22,741	ABERDEEN.
23	143	290	70	202	20,415	5,505	5,505	5,505	5,505	5,505	18,296	ABERDEEN.
11	823	31	504	187	2,303	15,500	15,500	15,500	15,500	15,500	22,555	ABERDEEN.
47	167	25	29	330	13,080	8,575	15,779	81,083	116,934	27,601	27,601	ABERDEEN.
47	148	41	148	291	5,694	5,490	5,490	5,490	5,490	5,490	20,978	ABERDEEN.
2	124	29	8	116	7,080	1,387	3,980	10,087	45,240	3,720	3,720	ABERDEEN.
8	118	8	548	6,515	8,255	1,517	15,267	27,026	77,280	22,810	22,810	ABERDEEN.
9	223	8	44	221	7,460	1,676	3,000	21,546	54,596	20,430	20,430	ABERDEEN.
3	45	30	1	17	8,711	1,036	8,750	820	45,161	16,759	16,759	ABERDEEN.
10	236	46	26	196	4,941	5,030	11,160	39,277	46,772	17,100	17,100	ABERDEEN.
1	47	4	18	61	25,158	8,479	12,379	7,364	30,555	30,555	30,555	ABERDEEN.
3	87	11	3	53	11,500	3,061	4,637	8,996	44,347	38,282	38,282	ABERDEEN.
2	237	11	3	100	4,596	282	15,180	53,812	50,611	50,611	50,611	ABERDEEN.
8	70	3	2	30	1,385	-	214	2,028	6,307	15,709	5,524	ABERDEEN.
13	36	18	4	269	4,593	-	4,370	5,504	55,038	15,967	15,967	ABERDEEN.
31	242	4	8	197	5,000	-	4,070	15,004	50,004	72,509	15,458	ABERDEEN.
3	131	26	16	394	15,340	4,599	15,574	3,074	40,162	155,310	45,802	ABERDEEN.
36	159	18	19	123	7,439	24	8,008	4,629	26,187	15,631	22,705	ABERDEEN.
2	210	18	3	46	3,347	1	1,003	8,497	22,320	15,920	15,920	ABERDEEN.
1	330	1	1	151	8,481	4	271	14,020	26,774	40,140	33,181	ABERDEEN.
12	147	68	22	454	5,990	503	3,045	8,278	17,988	80,180	50,045	ABERDEEN.
54	130	28	87	4	6,140	-	140	1,492	5,729	30,615	14,481	ABERDEEN.
1	1	1	1	37	6,013	-	8,008	4,423	25,648	41,694	18,518	ABERDEEN.
16	670	4	19	268	3,897	1	1,513	12,379	34,848	54,378	45,214	ABERDEEN.
87	874	9	28	308	6,185	1	210	18,320	22,817	20,126	20,126	ABERDEEN.
10	878	7	22	20	5,074	-	4,422	6,427	26,488	71,878	16,320	ABERDEEN.
10	891	7	26	210	12,411	-	10,423	21,044	61,596	140,891	45,129	ABERDEEN.
45	119	28	41	286	7,691	814	8,208	3,380	35,170	46,181	15,477	ABERDEEN.
4	410	6	3	258	5,400	2	156	14,844	24,823	46,337	20,551	ABERDEEN.
22	436	54	-	185	8,265	-	2,039	6,128	21,254	76,408	24,610	ABERDEEN.
40	332	7	7	85	7,000	-	5,543	12,600	30,625	307,494	26,782	ABERDEEN.
4	308	53	8	118	7,169	7	1,008	8,630	26,410	46,070	25,775	ABERDEEN.
2	187	6	3	120	9,417	3,565	6,032	8,300	30,610	72,640	26,823	ABERDEEN.
8	203	1	-	95	3,805	-	1,008	8,734	15,696	28,673	13,611	ABERDEEN.
4	49	10	76	90	8,175	1,180	5,041	2,892	21,190	26,944	15,305	ABERDEEN.
4	384	6	23	307	10,519	5	1,291	12,995	34,894	12,379	45,425	ABERDEEN.
8	234	1	1	5	3,306	-	583	2,212	5,420	15,020	12,634	ABERDEEN.
8	450	16	22	337	12,340	1,000	4,634	26,137	46,574	114,267	45,740	ABERDEEN.
27	47	2	8	179	3,540	-	2,237	16,781	26,137	114,817	16,308	ABERDEEN.
1	417	83	113	115	8,540	-	1,764	9,980	26,207	45,201	21,320	ABERDEEN.
7	107	1	89	87	4,074	-	379	2,009	16,842	17,450	24,350	ABERDEEN.
25	897	33	7	66	7,086	-	4,150	4,095	26,720	60,234	20,182	ABERDEEN.
7	70	2	-	417	7,619	1,084	5,248	6,008	29,881	46,329	22,820	ABERDEEN.
187	119	18	12	544	7,479	88	2,061	1,814	26,628	51,660	25,646	ABERDEEN.
27	33	3	3	165	5,385	503	2,430	6,432	24,308	46,607	26,668	ABERDEEN.
20	373	2	47	87	9,370	-	2,124	8,278	17,668	71,668	25,009	ABERDEEN.
37	401	37	28	408	11,245	5,206	6,057	4,008	46,701	105,132	45,182	ABERDEEN.
8	126	28	8	745	10,582	3,464	6,128	8,708	36,977	62,540	40,900	ABERDEEN.
26	542	67	46	288	5,429	4,087	7,706	7,823	60,641	72,373	30,234	ABERDEEN.
94	454	217	53	659	15,656	49	7,090	14,283	35,080	126,604	14,516	ABERDEEN.
5	100	-	-	17	1,841	-	1,200	4,265	29,407	6,036	6,036	ABERDEEN.
26	161	7	4	162	8,080	-	1,208	12,610	22,691	42,694	15,320	ABERDEEN.
26	315	2	29	167	8,380	-	1,702	2,946	16,075	33,661	16,745	ABERDEEN.
1	174	-	6	43	2,835	-	1,034	3,781	13,791	20,929	26,145	ABERDEEN.
1	322	7	3	258	3,775	164	840	15,900	24,648	34,539	26,147	ABERDEEN.
50	8	106	104	424	16,481	3,897	16,241	1,295	74,086	177,808	50,045	ABERDEEN.
8	76	3	2	428	6,115	-	1,695	8,417	36,595	22,871	31,620	ABERDEEN.
2	174	3	-	112	8,637	2	1,204	3,980	15,918	36,326	17,245	ABERDEEN.
23	8	7	-	458	3,090	-	2,844	5,560	16,448	46,783	142,505	ABERDEEN.
8	420	2	-	458	5,218	-	2,240	18,598	70,743	202,864	202,864	ABERDEEN.
12	254	61	1	370	15,526	427	8,234	3,906	40,514	159,705	45,181	ABERDEEN.
1	1	-	6	224	4,354	248	514	399	11,230	11,480	12,121	ABERDEEN.
4	61	28	4	518	12,488	3,544	8,560	7,130	49,302	90,300	41,618	ABERDEEN.
48	412	3	4	196	8,716	-	3,004	5,130	50,333	50,333	50,333	ABERDEEN.
4	250	64	7	103	5,187	6	1,444	8,702	16,077	32,674	17,488	ABERDEEN.
17	394	8	369	71	2,504	-	1,439	13,925	29,391	30,541	13,541	ABERDEEN.
1	1	-	-	100	6,771	-	3,687	13,811	22,418	56,548	12,774	ABERDEEN.
59	394	8	3	105	4,885	9	1,067	16,600	23,845	74,594	34,225	ABERDEEN.
41	354	67	2	220	16,210	-	14,000	6,679	47,760	114,025	27,183	ABERDEEN.
25	336	14	11	244	8,729	437	1,490	26,770	47,569	108,623	41,123	ABERDEEN.
338	3	-	1	194	4,282	-	167	14,540	21,080	20,548	22,745	ABERDEEN.
62	328	62	11	181	8,084	35	8,250	8,250	89,061	165,084	29,814	ABERDEEN.
18	327	80	228	120	10,585	-	2,043	8,735	36,796	63,791	43,001	ABERDEEN.
3	264	22	628	26	6,077	2	1,012	4,016	23,000	21,745	12,574	ABERDEEN.
12	402	425	7	60	10,162	79	588	10,000	30,084	59,687	27,541	ABERDEEN.
23	308	31	11	555	7,718	-	3,328	2,680	42,280	28,440	15,102	ABERDEEN.
0	219	29	118	46	5,545	-	1,330	6,682	16,536	42,023	15,319	ABERDEEN.

TABLE 7.—SOWING, BY POOR LAW UNIONS, THE EXTENT OF LAND

POOR LAW UNIONS.	CEREALS, GRAIN, AND PASTURE.								EXTENT OTHER CROPS.		
	Wheat.	Oats.	Barley.	Buckwheat.	Rye.	Maize.	Potatoes.	Swedes.	Turnips.	Other Crops.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
ARMISTEAD,	11	7,275	1	1	24	2	8,004	4,215	1,344	287	
ARMISTEAD,	89	14,511	228	8	849	16	14,510	4,333	3,185	162	
ARMISTEAD,	79	6,854	5	4	81	2	6,435	3,769	369	113	
ARMISTEAD,	1,029	4,745	5	1	8	1	2,770	4,392	1,911	118	
ARMISTEAD,	41	6,027	28	2	15	1	6,184	3,220	890	162	
ARMISTEAD,	1	1,977	1	1	25	1	1,695	3,925	435	184	
ARMISTEAD,	779	6,517	10	1	83	1	7,537	4,146	871	120	
ARMISTEAD,	2,827	8,054	4,984	4	1	1	15,340	8,077	1,540	221	
ARMISTEAD,	364	1,009	5	1	65	2	1,556	1,942	266	225	
ARMISTEAD,	1	2,608	120	1	10	1	2,749	2,229	651	34	
ARMISTEAD,	343	8,830	6	1	22	1	8,823	5,881	891	185	
ARMISTEAD,	78	2,674	56	1	1	1	2,800	1,427	652	285	
ARMISTEAD,	415	2,528	14	1	1	1	2,549	4,668	377	276	
ARMISTEAD,	423	1,920	28	11	281	1	2,663	4,028	670	238	
ARMISTEAD,	287	4,819	2,026	8	1	1	4,419	3,881	2,376	214	
ARMISTEAD,	698	8,037	12	2	16	480	8,277	6,388	1,528	55	
ARMISTEAD,	144	29,544	526	1	1	8	30,079	2,941	2,376	21	
ARMISTEAD,	367	13,624	417	8	115	8	34,788	4,477	4,475	31	
ARMISTEAD,	1,116	18,263	81	7	7	7	34,788	5,481	1,599	775	
ARMISTEAD,	267	7,014	28	7	45	2	7,587	3,439	1,480	227	
ARMISTEAD,	448	4,172	13	8	23	1	4,286	4,280	848	255	
ARMISTEAD,	886	4,754	580	1	141	6	5,165	2,180	3,128	227	
ARMISTEAD,	77	22,018	28	17	131	10	22,254	7,640	7,880	186	
ARMISTEAD,	160	4,221	18	6	67	1	4,305	4,184	564	267	
ARMISTEAD,	405	4,237	77	1	62	1	4,687	4,227	1,722	144	
ARMISTEAD,	2,136	11,432	985	1	40	101	14,880	6,146	1,267	248	
ARMISTEAD,	350	5,431	80	1	9	1	6,000	6,618	1,764	448	
ARMISTEAD,	1,641	16,781	3	1	180	1	17,021	22,878	2,247	22	
ARMISTEAD,	1,091	7,563	22	1	8	1	8,525	3,479	2,949	274	
ARMISTEAD,	39	5,875	3	1	122	1	5,711	4,869	307	341	
ARMISTEAD,	284	10,420	7,029	1	1	1	10,630	4,002	4,218	1,679	
ARMISTEAD,	17	12,530	380	1	85	6	12,940	8,909	2,229	87	
ARMISTEAD,	260	2,712	1	2	10	1	3,045	2,228	755	28	
ARMISTEAD,	358	4,267	27	2	22	1	4,624	3,157	645	123	
ARMISTEAD,	8	4,740	3	1	133	1	4,442	2,965	816	260	
ARMISTEAD,	184	16,897	4	1	25	11	17,066	8,114	3,609	621	
ARMISTEAD,	60	4,207	1	20	80	1	4,247	3,720	1,854	218	
ARMISTEAD,	375	7,748	11,181	10	6	1	91,151	7,200	8,172	383	
ARMISTEAD,	28	7,463	48	1	48	1	7,688	4,282	2,681	223	
ARMISTEAD,	672	3,008	1,536	18	248	24	30,222	4,385	2,754	494	
ARMISTEAD,	730	8,444	24	1	48	12	8,700	3,560	787	176	
ARMISTEAD,	172	7,066	3,777	4	58	1	10,222	3,764	3,727	270	
ARMISTEAD,	647	3,220	80	1	49	1	4,246	4,178	954	299	
ARMISTEAD,	1,690	16,411	12,335	1	3	27	30,079	7,273	6,220	781	
ARMISTEAD,	328	22,416	27	1	8	1	23,173	13,202	9,634	81	
ARMISTEAD,	2,842	18,748	164	4	1	250	22,834	6,262	4,419	227	
ARMISTEAD,	58	7,168	29	1	5	1	7,222	4,153	1,030	123	
ARMISTEAD,	3	29,808	3	1	104	2	29,106	11,769	8,754	28	
ARMISTEAD,	415	2,614	436	8	267	1	4,008	4,000	223	84	
ARMISTEAD,	278	7,294	8,444	4	424	1	16,789	5,445	4,569	764	
ARMISTEAD,	410	1,972	247	3	27	1	2,023	1,764	808	222	
ARMISTEAD,	479	3,223	87	1	1	1	2,764	1,269	808	144	
ARMISTEAD,	862	30,278	257	1	1	1	31,168	4,111	2,220	280	
ARMISTEAD,	2,277	2,666	222	1	7	1	4,092	5,089	1,116	299	
ARMISTEAD,	143	2,300	2	1	205	1	2,311	3,425	1,698	263	
ARMISTEAD,	115	4,227	3,877	12	29	1	8,035	4,684	2,755	496	
ARMISTEAD,	139	1,222	1	1	1	1	1,280	645	486	222	
ARMISTEAD,	151	9,028	567	6	8	1	10,276	4,053	2,310	264	
ARMISTEAD,	1,271	4,697	16	1	181	1	5,185	3,394	1,834	488	
ARMISTEAD,	605	1,637	45	1	8	1	1,772	1,841	808	181	
ARMISTEAD,	244	5,117	14	4	243	1	5,622	4,027	1,428	89	
ARMISTEAD,	90	20,253	37	1	21	1	20,447	8,637	7,694	329	
ARMISTEAD,	50	8,458	1	1	1	1	8,457	8,174	1,742	1	
ARMISTEAD,	80	2,918	1	2	363	1	3,003	4,265	638	378	
ARMISTEAD,	1	11,543	16	1	307	1	11,748	16,440	808	37	
ARMISTEAD,	1,692	7,674	4,777	1	1	1	16,249	8,446	2,548	284	
ARMISTEAD,	18	8,634	1,605	3	1	1	12,122	4,837	3,831	316	
ARMISTEAD,	616	4,448	190	1	17	1	5,167	4,348	1,272	293	
ARMISTEAD,	30	8,180	2	1	80	1	8,268	4,678	560	69	
ARMISTEAD,	1,086	4,329	1,042	4	21	1	5,179	5,444	1,490	235	
ARMISTEAD,	144	5,627	79	8	122	1	6,241	3,442	1,680	402	
ARMISTEAD,	1,126	5,227	194	12	248	1	10,560	7,922	2,448	267	
ARMISTEAD,	127	2,134	1	1	166	1	2,470	3,251	1,029	299	
ARMISTEAD,	241	8,450	7,328	61	160	1	15,661	4,228	5,464	644	
ARMISTEAD,	328	2,337	4,511	1	1	1	5,079	3,894	2,130	125	
ARMISTEAD,	282	8,473	867	4	1	1	10,041	8,272	9,727	1,548	
ARMISTEAD,	60	4,237	49	1	1,554	1	7,384	7,221	283	60	
ARMISTEAD,	1,084	5,301	5,872	1	58	1,080	10,717	4,778	8,227	836	
ARMISTEAD,	256	4,989	2,224	1	1	1	7,229	2,758	1,636	414	
TOTAL,	32,341	1,221,023	182,016	278	14,879	3,713	335	1,444,254	286,861	205,766	45,457

HYPER CROPS IN THE YEAR 1890, THE YALTAHIN IN 1890, AND THE POPULATION IN 1881—continued.

IN STATUTE ACRES.							HYPER CROPS IN THE YEAR 1890.					POPULATION IN 1881.	POPULATION IN 1890.	POOR LAW UNIONS.
CEREAL CROPS.							HYPER CROPS IN THE YEAR 1890.							
Cereals and Tubers.	Barley.	Wheat.	Rye.	Oats.	Other Cereals.	Total.	Barley.	Wheat.	Rye.	Oats.	Other Cereals.	Total.		
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.		
19	520	6	25	252	4,098	4,881	1,739	16,735	36,338	85,773	53,373	139,146	GRANDED.	
20	414	313	66	13	2,717	3,523	4,149	2,541	15,141	26,161	24,161	50,322	HYPER CROPS.	
3	150	7	2	101	1,179	1,439	5,443	8,695	22,734	42,149	77,928	119,977	HYPER CROPS.	
4	644	44	30	146	4,905	5,735	1,779	24,447	39,007	77,519	53,034	130,553	HYPER CROPS.	
14	145	15	1	124	4,707	5,057	4,706	8,412	22,041	34,696	59,696	91,696	HYPER CROPS.	
1	236	9	64	26	4,894	5,325	92	7,491	13,491	16,411	18,799	35,290	HYPER CROPS.	
10	85	9	2	135	4,932	5,268	4,207	1,933	4,207	44,884	50,077	94,961	HYPER CROPS.	
8	409	9	12	181	4,932	5,268	4,207	1,933	4,207	44,884	50,077	94,961	HYPER CROPS.	
3	103	1	1	29	3,982	4,215	101	8,900	18,125	22,327	11,623	33,950	HYPER CROPS.	
8	68	14	9	29	3,169	3,416	1,666	1,718	4,891	26,270	10,155	36,425	HYPER CROPS.	
10	907	19	89	181	7,199	8,366	1,497	18,251	34,320	76,626	44,628	121,254	HYPER CROPS.	
10	345	19	8	17	5,674	6,116	1,493	1,506	5,162	53,622	53,735	107,357	HYPER CROPS.	
14	333	1	1	16	2,407	2,641	2,608	2,608	22,511	127,308	62,610	189,918	HYPER CROPS.	
4	457	2	1	62	7,369	8,028	557	14,552	22,317	22,317	33,950	56,267	HYPER CROPS.	
61	50	40	4	58	4,277	4,785	5,715	3,589	24,410	53,338	31,890	85,228	HYPER CROPS.	
5	30	43	1	148	6,915	7,366	4,542	10,292	33,891	102,515	36,396	138,911	HYPER CROPS.	
3	70	13	1	145	5,655	6,055	9,187	1,210	21,234	31,943	13,671	45,614	HYPER CROPS.	
60	54	45	11	195	11,069	12,364	8,125	1,830	42,565	67,768	76,335	144,103	HYPER CROPS.	
20	613	5	13	302	9,247	10,169	2,478	24,325	42,571	105,411	73,533	178,944	HYPER CROPS.	
69	73	169	20	363	14,073	14,666	14,128	7,797	42,907	128,700	53,518	182,218	HYPER CROPS.	
26	443	25	1	89	4,792	5,324	5,242	1,687	10,299	44,361	17,254	61,615	HYPER CROPS.	
15	146	13	18	178	5,511	6,068	5,511	1,000	20,500	30,500	26,844	57,344	HYPER CROPS.	
15	146	13	18	178	5,511	6,068	5,511	1,000	20,500	30,500	26,844	57,344	HYPER CROPS.	
9	347	69	1	446	16,114	16,911	6,196	1,802	37,900	64,399	36,411	104,810	HYPER CROPS.	
17	409	13	23	121	9,645	10,208	2,409	10,208	27,046	66,246	29,314	95,560	HYPER CROPS.	
1	172	1	437	169	4,409	5,091	750	15,293	27,515	78,211	35,331	113,542	HYPER CROPS.	
20	317	183	7	405	11,128	12,023	6,354	3,244	43,623	105,598	62,957	168,555	HYPER CROPS.	
18	986	378	58	74	8,392	9,294	5,347	10,641	21,308	61,173	25,432	86,605	HYPER CROPS.	
6	179	38	37	11	12,352	12,562	12,352	1,816	23,758	42,588	22,611	66,169	HYPER CROPS.	
42	351	22	37	84	5,904	6,365	5,909	22,513	44,744	105,233	27,731	132,964	HYPER CROPS.	
1	533	1	437	169	4,409	5,091	750	15,293	27,515	78,211	35,331	113,542	HYPER CROPS.	
15	146	13	18	178	5,511	6,068	5,511	1,000	20,500	30,500	26,844	57,344	HYPER CROPS.	
7	352	62	90	89	14,234	14,716	8,539	4,144	27,717	64,644	37,023	101,661	HYPER CROPS.	
10	114	100	1	64	8,791	9,392	5,347	10,641	21,308	61,173	25,432	86,605	HYPER CROPS.	
12	310	10	31	138	5,563	6,073	1,127	8,249	23,711	38,137	15,511	53,648	HYPER CROPS.	
1	291	3	16	59	6,009	6,309	1,700	11,049	22,927	35,330	26,906	62,236	HYPER CROPS.	
5	245	24	30	109	10,485	10,729	7,149	4,354	25,032	42,588	22,611	66,169	HYPER CROPS.	
4	347	16	873	124	4,792	5,324	1,687	10,299	44,361	102,515	36,396	138,911	HYPER CROPS.	
10	563	50	1	227	14,395	14,822	6,140	14,455	26,114	102,077	64,644	166,721	HYPER CROPS.	
34	94	1	139	811	7,705	8,516	2,699	10,245	20,491	50,981	22,611	73,592	HYPER CROPS.	
10	906	13	47	222	8,901	9,523	7,565	8,901	44,793	103,183	50,981	154,164	HYPER CROPS.	
17	80	10	4	130	2,614	2,844	2,409	10,208	27,046	66,246	29,314	95,560	HYPER CROPS.	
20	652	20	65	146	13,215	13,717	4,487	10,641	21,308	61,173	25,432	86,605	HYPER CROPS.	
10	490	11	85	77	7,429	7,906	514	20,340	23,223	35,331	58,554	93,884	HYPER CROPS.	
36	527	39	7	126	13,358	13,911	11,797	3,019	49,82					

TABLE 2.—GROWING, BY FOOT LAW UNDER, THE

FOOT LAW UNDER.	CERE, FRUIT, AND FRUIT.							PRODUCE
	Wheat.	Oats.	Barley.	Rye.	Rye.	Wheat.	Wheat.	
	Certs. of 100 lbs.	Certs. of 100 lbs.	Certs. of 100 lbs.	Certs. of 100 lbs.	Certs. of 100 lbs.	Certs. of 100 lbs.	Certs. of 100 lbs.	
AMSTERDAM,	2,300	84,951	106,970	290	100	37	607	
ANVERS,	8,871	293,999	304	30	4,071	168	617	
ARRELS,	8,707	147,920	60,999	30	1,999	1,999	304	
ARRAS,	28,037	209,999	60	47	1,999	1,999	304	
ATTEN,	1,904	60,070	307	67	5,420	30	30	
ATRY,	17,664	178,954	248,437	190	387	30	30	
BALLINGRANGE,	308	80,999	1,999	40	1,999	304	304	
BALLINAGH,	177	100,404	1,999	40	1,999	304	304	
BALLINAGH,	1,744	77,657	4,948	12	1,750	304	304	
BALLINAGH,	10,074	84,777	1,999	1,999	1,999	304	304	
BALLYCORTLE,	82	144,071	11,517	31	49	6,717	31	
BALLYCORTLE,	8,434	75,127	69	40	40	30	30	
BALLYCORTLE,	3,191	207,044	260	40	40	30	30	
BALLYCORTLE,	101	208,490	81	40	40	30	30	
BALLYCORTLE,	8,402	47,808	67	30	1,304	600	600	
BALLYCORTLE,	8,088	7,899	8,920	30	30	100	100	
BALLYCORTLE,	20,074	38,738	50,513	30	40	304	304	
BALLYCORTLE,	1,999	13,000	1,999	10	40	142	142	
BALLYCORTLE,	10,430	294,000	1,999	10	40	142	142	
BALLYCORTLE,	14,163	104,400	10,813	10	10	30	30	
BALLYCORTLE,	8,420	10,012	1,999	10	10	30	30	
BALLYCORTLE,	702	84,000	1,999	10	10	30	30	
BALLYCORTLE,	4,184	60,004	4,007	10	10	30	30	
BALLYCORTLE,	4,000	47,020	112,000	10	10	30	30	
BALLYCORTLE,	4,167	73,040	800	20	2,000	30	30	
BALLYCORTLE,	21	73,442	1,999	10	40	30	30	
BALLYCORTLE,	81,422	41,122	17,000	10	40	30	30	
BALLYCORTLE,	30,000	500,007	75,071	10	40	30	30	
BALLYCORTLE,	7,504	90,740	12,000	10	40	30	30	
BALLYCORTLE,	201	45,004	10	10	3,007	30	30	
BALLYCORTLE,	15,007	240,000	514	10	30	30	30	
BALLYCORTLE,	90,772	120,000	20,007	10	30	30	30	
BALLYCORTLE,	5,000	85,410	030	20	5,000	30	30	
BALLYCORTLE,	30	870,700	400	30	30	30	30	
BALLYCORTLE,	2,207	80,010	10,007	10	30	30	30	
BALLYCORTLE,	860	107,783	1,999	10	30	30	30	
BALLYCORTLE,	207	100,000	70	40	1,200	30	30	
BALLYCORTLE,	207	10,244	200	40	30	30	30	
BALLYCORTLE,	6,201	100,070	300	40	1,400	30	30	
BALLYCORTLE,	10,100	73,010	5,000	10	30	30	30	
BALLYCORTLE,	400	110,000	202	10	3,070	30	30	
BALLYCORTLE,	30,000	50,007	8,000	10	6,000	30	30	
BALLYCORTLE,	3,740	100,000	1,010	40	1,000	30	30	
BALLYCORTLE,	17,100	57,104	50,640	10	30	30	30	
BALLYCORTLE,	8,000	70,010	300	70	1,000	40	40	
BALLYCORTLE,	17,202	30,000	600	30	30	30	30	
BALLYCORTLE,	400	70,000	10,000	10	30	30	30	
BALLYCORTLE,	11,000	100,000	30	70	1,000	60	60	
BALLYCORTLE,	1,167	170,000	80	30	30	30	30	
BALLYCORTLE,	8,000	202,000	44,700	10	1,000	70	70	
BALLYCORTLE,	3,444	7,007	400	10	1,000	30	30	
BALLYCORTLE,	11,777	30,000	2,000	10	30	70	70	
BALLYCORTLE,	304	40,000	240	10	30	30	30	
BALLYCORTLE,	100	20,070	8,000	10	1,000	30	30	
BALLYCORTLE,	250	40,000	540	40	5,010	441	441	
BALLYCORTLE,	24,004	37,000	740	140	400	1,000	1,000	
BALLYCORTLE,	6,000	140,070	70,000	10	50	30	30	
BALLYCORTLE,	1,900	73,070	8,070	40	80	30	30	
BALLYCORTLE,	20,000	80,104	10,010	10	30	100	100	
BALLYCORTLE,	12,000	40,000	1,000	10	30	30	30	
BALLYCORTLE,	12,000	910,240	100,000	30	370	70	70	
BALLYCORTLE,	70	20,111	1,000	30	1,350	10	10	
BALLYCORTLE,	6,010	210,171	147	10	1,000	81	81	
BALLYCORTLE,	6,000	20,000	7,000	10	1,000	30	30	
BALLYCORTLE,	8,000	40,000	80	10	1,000	30	30	
BALLYCORTLE,	2,000	40,000	20	10	1,000	30	30	
BALLYCORTLE,	4,000	107,100	80,000	110	8,071	30	30	
BALLYCORTLE,	7,004	40,404	100	20	1,000	400	400	
BALLYCORTLE,	50,400	220,070	100,000	10	1,000	100	100	
BALLYCORTLE,	8,400	81,010	110	10	1,000	30	30	
BALLYCORTLE,	1,000	8,440	800	30	1,000	64	64	
BALLYCORTLE,	10,000	200,000	3,000	10	1,000	30	30	
BALLYCORTLE,	10,001	61,000	3,700	100	4,000	300	300	
BALLYCORTLE,	10,000	10,000	100	10	1,000	30	30	
BALLYCORTLE,	8,004	60,000	140	10	1,000	30	30	
BALLYCORTLE,	20,000	140,010	27,000	10	40	2,400	2,400	
BALLYCORTLE,	17,474	42,007	20,011	10	210	30	30	

PRODUCT OF THE CROPS IN THE YEAR 1890.

OF THE CROPS.

Tons.	Tons.	GROSS CROPS.						U.S.		FOUR LAW UNIONS.	
		Wheat and Barley	Oats and Rye	Hay and Clover	Grain	Vegetables	Apples	Wine	Other		
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
14,595	47,524	2,351	545	5,380	77	1,081	118,245	14,819	10,347	ARABIAN.	
20,455	26,511	511	18	55	4,788	54	225	28,811	10,348	AYRSH.	
18,440	1,948	8,852	283	1,448	291	1,087	164,219	21,268	10,348	AYRSH.	
44,478	47,584	7,478	294	1,084	330	37.9		4,856	9,670	AYRSH.	
16,502	50,850	8,009	73	5,894	336					AYRSH.	
30,465	136,145	8,215	487	1,747	218	360		16,442	10,589	AYRSH.	
8,464	5,283	828	28	457	354	137	39,792	14,890	10,589	AYRSH.	
11,146	17,899	2,862	18	5,882	181	58	2,455	3,732	5,450	AYRSH.	
8,903	55,124	6,930	31	5,496	90	4,215		2,873	25,571	AYRSH.	
11,708	52,858	2,767	10	5,637	90	128		3,582	15,571	AYRSH.	
11,094	17,339	155	68	530	392	8	23,749	1,947	2,817	AYRSH.	
7,545	12,881	2,153	296	2,065	340	829	29	4,730	20,899	AYRSH.	
8,977	12,671	852	8	292	32	46	294,373	20,287	10,380	AYRSH.	
29,828	24,702	801	43	489	185	114	115,755	20,185	5,259	AYRSH.	
4,734	7,980	1,559	43	8,474	80	52	10,798	1,280	27,465	AYRSH.	
1,007	4,426	1,198	24	497	85	14		2,130	6,374	AYRSH.	
14,974	12,553	2,433	696	389	81	54		8,160	10,176	AYRSH.	
8,171	30,284	5,814	229	2,192	28	28		6,962	26,460	AYRSH.	
20,543	41,281	850	8	146	223	212	181,174	27,745	8,800	AYRSH.	
4,738	21,281	8,821	289	1,252	469	117	3,679	5,869	8,800	AYRSH.	
2,159	6,314	1,801	18	1,240	34	31		2,824	7,692	AYRSH.	
7,473	2,880	405	15	5,081	10	10		1,708	24,586	AYRSH.	
4,367	20,552	4,926	145	1,223	231	232	16,280	12,275	10,180	AYRSH.	
3,461	2,784			1,647		8		206	2,855	AYRSH.	
3,464	25,562	7,255	938	1,288	156	788		7,838	8,245	AYRSH.	
11,078	6,890	2,751	125	4,087	30	60	156	8,852	45,330	AYRSH.	
3,801	4,492	1,462		5,089	10	78	37	453	20,221	AYRSH.	
4,496	18,580	2,626	64	5,140	34			8,857	21,711	AYRSH.	
10,464	52,174	6,726	514	4,238	50	805		20,574	43,429	AYRSH.	
11,914	31,465	3,756	339	702	254	158	27,081	12,226	4,428	AYRSH.	
8,806	2,180	2,800	22	5,267	42	81	78	254	40,140	AYRSH.	
2,527	24,592	8,576	292	2,758	260			7,661	12,967	AYRSH.	
6,996	40,216	3,915	359	8,001	34	67		16,681	11,541	AYRSH.	
8,746	41,931	1,455	30	5,128	138	39		3,813	11,461	AYRSH.	
11,831	11,650	896	14	1,767	24	39	180,195	14,063	34,548	AYRSH.	
2,648	16,646	1,700	89	2,058	7			4,078	18,573	AYRSH.	
7,778	14,490	65	60	467	258	141	35,945	2,599	9,794	AYRSH.	
11,177	18,792	1,150	54	4,594	88	438	80	4,343	20,974	AYRSH.	
1,952	5,331	1,740		5,028		10		789	5,872	AYRSH.	
14,754	12,642	3,988	76	4,968	169	281	27,721	11,545	68,582	AYRSH.	
2,567	16,630	4,851	114	808	14	45		6,063	29,627	AYRSH.	
2,021	11,369	1,997	19	4,472	191	848		2,894	32,159	AYRSH.	
4,644	2,648	9,913	32	1,708	12	454		606	8,228	AYRSH.	
18,364	7,095	4,712	331	4,828	177	48		8,831	14,919	AYRSH.	
20,823	21,805	2,316	84	447	26		26,715	6,545	14,904	AYRSH.	
8,251	20,180	2,780	1,955	1,584	60	54	1,753	2,858	4,384	AYRSH.	
8,503	11,868	878	68	469	46	12	27,649	4,437	22,573	AYRSH.	
8,291	12,845	1,602	139	2,140	15			4,073	7,189	AYRSH.	
20,447	48,192	1,952	191	1,784	452	168	208,532	21,374	10,633	AYRSH.	
20,849	20,187	1,280	45	884	142	51	67,242	15,085	15,980	AYRSH.	
18,128	20,816	1,286	328	2,267	291	268	119,518	18,081	17,208	AYRSH.	
20,372	62,673	22,218	862	5,137	3,714	382	1,649	14,527	55,620	AYRSH.	
1,594	5,648		60	2,861	21			777	4,009	AYRSH.	
4,131	18,673	4,106	342	1,767	63	41		3,325	20,739	AYRSH.	
2,941	17,137	8,077	194	3,459	38	300		8,562	19,715	AYRSH.	
8,997	5,851	1,707	7	1,011	49	62		9,468	7,095	AYRSH.	
3,393	4,576	826	8	2,193	49	37	4,295	27,780	22,972	AYRSH.	
26,138	7,684	4,656	184	478	1,311	285	165,561	23,421	5,892	AYRSH.	
7,466	44,890	8,917	76	866	87	14		12,187	18,050	AYRSH.	
9,807	18,978	2,440		2,318	39		78	3,276	4,274	AYRSH.	
3,024	4,059	2,870	160	5,898	42			4,128	11,946	AYRSH.	
5,781	5,213	3,324	72	7,526				1,681	11,343	AYRSH.	
87,131	62,496	2,757	330	3,144	1,688	8	17,298	10,615	4,795	AYRSH.	
4,323	7,543	852		1,536	789	29		2,971	1,747	AYRSH.	
23,042	23,622	2,146		1,114	279	28	89,081	13,384	30,296	AYRSH.	
6,081	18,499	4,892	809	2,148	31	32		4,668	2,928	AYRSH.	
2,024	8,407	1,094	31	1,704	209	61	166	8,821	27,889	AYRSH.	
8,707	22,914	5,028	322	364	10	108		3,066	20,455	AYRSH.	
4,068	22,718	9,167	142	1,348	58	5,162		9,786	20,961	AYRSH.	
4,254	15,443	4,075	142	2,004	38	14	58	2,503	11,927	AYRSH.	
26,894	25,025	10,668	416	4,908	294	29		25,611	11,131	AYRSH.	
16,155	18,514	4,689	336	2,462	323	62	10,569	4,494	27,889	AYRSH.	
8,661	4,660	3,028	28	8,948		7		257	27,189	AYRSH.	
11,477	82,745	7,285	425	1,141	968	26	1,089	22,479	12,783	AYRSH.	
18,543	27,844	8,128	96	2,848	514	3,105		4,637	11,825	AYRSH.	
7,795	18,145	902	30	2,260	144	1,603	72	8,410	10,322	AYRSH.	
11,861	6,983	106		2,848	5,074		389	1,006	20,012	AYRSH.	
2,462	4,928	9,177	124	1,287	194	86		441	20,361	AYRSH.	
10,192	33,336	7,817	289	2,260	257	68		14,455	22,728	AYRSH.	
6,598	21,623	8,376	86	1,385	146	607		2,923	18,512	AYRSH.	

TABLE 8.—SHOWING, BY POOR LAW UNIONS, THE

POOR LAW UNIONS.	PRODUCE						
	CEREALS, GRASSES, AND FEEDS.						
	Wheat.	Rye.	Barley.	Oats.	Sp.	Beans.	Peas.
	Cwt. of 112 lbs.	Cwt. of 112 lbs.	Cwt. of 112 lbs.	Cwt. of 112 lbs.	Cwt. of 112 lbs.	Cwt. of 112 lbs.	Cwt. of 112 lbs.
GRANDS,	189	110,005	35	14	455	22	
GRANDS,	772	163,700	9,025	70	5,434	268	80
GRANDS,	1,778	30,219	1,300	186	1,300	77	
KILPATRICK,	15,074	67,369	475		35		
KILPATRICK,	1,179	67,130	350	20	260	16	
KILPATRICK,		15,608			200		
KILPATRICK,	11,530	67,772	277		25		
KILPATRICK,	24,411	60,318	71,201	42			
KILPATRICK,	9,718	6,300	30	12	675	22	13
KILPATRICK,	35	46,207	1,674		54		
KILPATRICK,	4,510	70,676	156		315		
KILPATRICK,	920	23,425	800		99		
KILPATRICK,	16,204	46,000	237		92		
KILPATRICK,	4,643	17,611	653	120	3,900	27	10
KILPATRICK,	12,877	70,446	37,173	45	12		
LARUE,	10,684	101,277	545	47	205	17,000	65
LARUE,		137,650			12		80
LARUE,	2,316	124,431	1,160		3,719	2,117	122
LARUE,	8,036	95,490	7,503	44	1,771	189	
LARUE,	17,301	500,207	704		67	421	150
LEWIS,	3,827	301,286	615		102		
LEWIS,	5,637	71,735	164	42	441	20	
LEWIS,	12,361	77,402	9,604		3,005	1,20	
LEWIS,	1,620	420,767	398		105	2,361	103
LEWIS,	1,472	41,386	317	32	615		
LEWIS,	7,308	46,680	335		875		
LEWIS,	21,782	160,703	3,772	14	720	1,000	1,643
LEWIS,	8,247	60,387	673		37		
LEWIS,	17,056	580,639	174	6	1,268		
LEWIS,	21,120	320,541	1,830		58		
LEWIS,	160	60,431	20	13	1,610		
LEWIS,	4,230	185,155	167,806				
LEWIS,	200	163,201	4,302		900	144	3,000
LEWIS,	6,000	40,121	18	96	134		
LEWIS,	1,361	40,487	303	60	242		
LEWIS,	194	45,488	85	11	1,522	14	
LEWIS,	2,600	100,144	60	21	301	900	64
LEWIS,	714	67,244	304	568	631	16	10
LEWIS,	2,828	154,046	100,419	160	119	10	
LEWIS,	612	117,314	1,344		692		
LEWIS,	12,407	164,746	20,271	105	3,204	400	60
LEWIS,	4,300	40,000	100	14	305	274	12
LEWIS,	5,000	100,011	10,000	60	800	10	16
LEWIS,	16,710	40,700	1,200		101	30	
LEWIS,	10,100	320,000	100,000	14	10	411	
LEWIS,	7,200	310,000	500		45	10	10
LEWIS,	64,421	200,000	1,000	60	502	3,375	700
LEWIS,	400	100,000	414		141		
LEWIS,	40	400,770	40		2,004		
LEWIS,	4,000	20,000	5,000	30	3,001		
LEWIS,	4,000	161,224	171,204	37	6,000		
LEWIS,	10,700	31,721	6,700	36	402		
LEWIS,	20,700	40,000	1,000		9		
LEWIS,	14,560	100,000	4,000		10		
LEWIS,	27,000	50,000	2,000		84		
LEWIS,	9,800	40,000	30	51	4,620	17	11
LEWIS,	3,000	10,000	70,000	100	600		
LEWIS,	5,300	10,000	500		1,217		
LEWIS,	1,000	100,000	8,000	100	400		
LEWIS,	16,000	60,000	200		1,143		
LEWIS,	4,000	11,000	200		35		
LEWIS,	3,000	70,000	200	42	3,007		
LEWIS,	4,000	40,000	80		110	16	
LEWIS,	500	60,000	10		10		
LEWIS,	1,000	30,000	90	35	4,800		
LEWIS,	10	170,000	300		3,000		
LEWIS,	10,000	67,000	20,000				70
LEWIS,	1,000	80,000	140,000	100			
LEWIS,	5,145	72,000	1,000		304		
LEWIS,	270	70,000	50		745		
LEWIS,	11,000	67,000	20,000	60	420	16	235
LEWIS,	4,000	100,000	1,114	40	1,700		
LEWIS,	14,000	100,000	3,000	144	4,000		30
LEWIS,	2,000	31,000	67	30	1,414	18	
LEWIS,	2,000	161,000	100,000	400	1,510		
LEWIS,	4,000	60,000	80,000				
LEWIS,	10,000	100,000	10,000	60			
LEWIS,	100	70,000	700	6	3,000		50
LEWIS,	17,000	140,000	100,000		104	20,000	11
LEWIS,	4,174	60,000	67,000		11		
TOTAL,	1,613,904	17,760,519	6,007,207	8,100	169,100	68,700	20,300

TABLE 2.—SHOWING THE NUMBER OF HOLDCRS EXCEEDING ONE ACRE, AND EXTENT OF LAND UNDER CROPS IN EACH YEAR FROM 1881 TO 1890, BY COUNTRIES AND PROVINCES.

COUNTRIES.	Year.	No. of Municipalities in 1900.	DETILED UNDER GROUPS OF STATISTICAL ACRES IN EACH YEAR FROM 1881 TO 1900.																				Total Agricultural Area.				
			Cereals, Beans, and Peas.										Other Crops.														
			Wheat.	Rye.	Barley.	Oats.	Peas.	Beans.	Other Cereals.	Other Beans.	Peas.	Other Peas.	Other Cereals.	Other Beans.	Peas.	Other Peas.	Other Cereals.	Other Beans.	Peas.	Other Peas.							
Austria.	1881	20,351	1,412	76,445	1,430	2	21	2,194	60,779	48,025	5,471	3,321	20,542	17,492	61,712	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731
	1882	20,351	1,412	76,445	1,430	2	21	2,194	60,779	48,025	5,471	3,321	20,542	17,492	61,712	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731
	1883	20,351	1,412	76,445	1,430	2	21	2,194	60,779	48,025	5,471	3,321	20,542	17,492	61,712	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731
	1884	20,351	1,412	76,445	1,430	2	21	2,194	60,779	48,025	5,471	3,321	20,542	17,492	61,712	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731
	1885	20,351	1,412	76,445	1,430	2	21	2,194	60,779	48,025	5,471	3,321	20,542	17,492	61,712	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731
	1886	20,351	1,412	76,445	1,430	2	21	2,194	60,779	48,025	5,471	3,321	20,542	17,492	61,712	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731	12,440	57,443	52,731
	1887	20,351	1,412	76,445	1,430	2	21	2,194																			

TABLE B.—SHOWING THE NUMBER OF HOLDINGS RECEIVING ONE ACRE, AND EXTENT OF LAND UNDER CROPS IN EACH YEAR FROM 1881 TO 1890, BY COUNTRY AND PROVINCE.—continued.

COUNTRY.	Year.	No. of Holdings receiving 1 acre.	EXTENT UNDER CROPS IF STATUTE ACRES IN EACH YEAR FROM 1881 TO 1890.										TotaL extent under crops.	
			CEREALS, GRASS, AND PASTURE.					CROPS.						
			Wheat.	Barley.	Oats.	Other Cereals.	Grass.	Pasture.	Other Crops.	Wheat.	Barley.	Oats.	Other Crops.	
SOUTH AFRICA.	1881	6,133	14,599	14,512	2,789	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1882	6,061	14,644	14,686	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1883	6,024	14,774	14,894	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1884	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1885	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1886	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1887	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1888	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1889	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
	1890	6,000	14,836	14,910	2,604	1,000	70	25,000	8,791	1,016	1,016	1,016	1,016	40,724
NORTH AFRICA.	1881	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1882	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1883	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1884	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1885	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1886	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1887	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1888	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1889	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
	1890	12,553	27,779	27,779	56	30	174	48	54,125	18,329	3,697	748	1,000	87,789
EGYPT.	1881	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1882	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1883	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1884	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1885	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1886	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1887	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1888	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1889	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1890	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
INDIA.	1881	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1882	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1883	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1884	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1885	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1886	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1887	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1888	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1889	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1890	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
CEYLON.	1881	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1882	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1883	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1884	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1885	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1886	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1887	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1888	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1889	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1890	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
SINGAPORE.	1881	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1882	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1883	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1884	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1885	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1886	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1887	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1888	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1889	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000
	1890	10,112	23,441	23,441	4,254	10	1,400	191	44,774	30,935	12,807	1,121	8,444	98,000

TABLE 9.—SHOWING THE NUMBER OF HOLDINGS EXERCISING ONE ACRE, AND EXTENT OF LAND UNDER CROPS IN EACH YEAR
FROM 1881 TO 1890, BY COUNTIES AND PROVINCES.—continued.

[illegible]

TABLE 2.—SHOWING THE NUMBER OF HOLDINGS RECENTLY OWNED AND EXTENT OF LAND UNDER CROPS IN EACH YEAR
from 1881 to 1890, BY COUNTIES AND PROVINCES—continued.

PROVINCES.

PROVINCES.	Years.	No. of families in 1881.	EXPERT FINGER CROOKS IN STATUTE AGED IN EACH YEAR FROM 1881 TO 1888.																			Total Expert Finger Crooks.
			COOK, BAKER, AND PAIR.										OTHER CROOKS.									
			Wheat.	Oats.	Barley.	Wheat.	Oats.	Barley.	Wheat.	Oats.	Barley.	Wheat.	Wheat.	Wheat.	Wheat.	Wheat.	Wheat.	Wheat.	Wheat.	Wheat.		
LEITCH:	1881	100,000	45,117	222,329	141,955	200	220	9,700	97,170	141,405	30,934	10,945	10,930	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1882	100,000	44,000	210,000	135,000	190	210	9,000	90,000	135,000	30,000	10,000	10,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1883	100,000	43,000	200,000	130,000	180	200	8,500	85,000	130,000	29,000	9,500	9,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1884	100,000	42,000	190,000	125,000	170	190	8,000	80,000	125,000	28,000	9,000	9,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1885	100,000	41,000	180,000	120,000	160	180	7,500	75,000	120,000	27,000	8,500	8,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1886	100,000	40,000	170,000	115,000	150	170	7,000	70,000	115,000	26,000	8,000	8,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1887	100,000	39,000	160,000	110,000	140	160	6,500	65,000	110,000	25,000	7,500	7,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1888	100,000	38,000	150,000	105,000	130	150	6,000	60,000	105,000	24,000	7,000	7,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1889	100,000	37,000	140,000	100,000	120	140	5,500	55,000	100,000	23,000	6,500	6,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1890	100,000	36,000	130,000	95,000	110	130	5,000	50,000	95,000	22,000	6,000	6,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
MONTGOMERY:	1881	112,000	40,454	200,000	130,000	200	200	9,000	90,000	130,000	30,000	10,000	10,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1882	112,000	39,000	190,000	125,000	190	190	8,500	85,000	125,000	29,000	9,500	9,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1883	112,000	38,000	180,000	120,000	180	180	8,000	80,000	120,000	28,000	9,000	9,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1884	112,000	37,000	170,000	115,000	170	170	7,500	75,000	115,000	27,000	8,500	8,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1885	112,000	36,000	160,000	110,000	160	160	7,000	70,000	110,000	26,000	8,000	8,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1886	112,000	35,000	150,000	105,000	150	150	6,500	65,000	105,000	25,000	7,500	7,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1887	112,000	34,000	140,000	100,000	140	140	6,000	60,000	100,000	24,000	7,000	7,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1888	112,000	33,000	130,000	95,000	130	130	5,500	55,000	95,000	23,000	6,500	6,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1889	112,000	32,000	120,000	90,000	120	120	5,000	50,000	90,000	22,000	6,000	6,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1890	112,000	31,000	110,000	85,000	110	110	4,500	45,000	85,000	21,000	5,500	5,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
CLARK:	1881	112,000	40,454	200,000	130,000	200	200	9,000	90,000	130,000	30,000	10,000	10,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1882	112,000	39,000	190,000	125,000	190	190	8,500	85,000	125,000	29,000	9,500	9,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1883	112,000	38,000	180,000	120,000	180	180	8,000	80,000	120,000	28,000	9,000	9,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1884	112,000	37,000	170,000	115,000	170	170	7,500	75,000	115,000	27,000	8,500	8,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1885	112,000	36,000	160,000	110,000	160	160	7,000	70,000	110,000	26,000	8,000	8,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1886	112,000	35,000	150,000	105,000	150	150	6,500	65,000	105,000	25,000	7,500	7,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1887	112,000	34,000	140,000	100,000	140	140	6,000	60,000	100,000	24,000	7,000	7,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1888	112,000	33,000	130,000	95,000	130	130	5,500	55,000	95,000	23,000	6,500	6,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1889	112,000	32,000	120,000	90,000	120	120	5,000	50,000	90,000	22,000	6,000	6,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1890	112,000	31,000	110,000	85,000	110	110	4,500	45,000	85,000	21,000	5,500	5,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
CONWAY:	1881	112,000	40,454	200,000	130,000	200	200	9,000	90,000	130,000	30,000	10,000	10,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1882	112,000	39,000	190,000	125,000	190	190	8,500	85,000	125,000	29,000	9,500	9,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1883	112,000	38,000	180,000	120,000	180	180	8,000	80,000	120,000	28,000	9,000	9,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1884	112,000	37,000	170,000	115,000	170	170	7,500	75,000	115,000	27,000	8,500	8,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1885	112,000	36,000	160,000	110,000	160	160	7,000	70,000	110,000	26,000	8,000	8,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1886	112,000	35,000	150,000	105,000	150	150	6,500	65,000	105,000	25,000	7,500	7,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1887	112,000	34,000	140,000	100,000	140	140	6,000	60,000	100,000	24,000	7,000	7,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1888	112,000	33,000	130,000	95,000	130	130	5,500	55,000	95,000	23,000	6,500	6,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1889	112,000	32,000	120,000	90,000	120	120	5,000	50,000	90,000	22,000	6,000	6,000	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
	1890	112,000	31,000	110,000	85,000	110	110	4,500	45,000	85,000	21,000	5,500	5,500	200,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	

TOTAL OF IRELAND.

[illegible]

TABLE 10.—SHOWING THE AVERAGE RATE OF PRODUCE OF CROPS TO THE STATUTE ACRE, IN EACH YEAR, FROM 1881 to 1890.

[illegible]

TABLE 10.—SHOWING THE AVERAGE RATES OF PRODUCE TO THE SEATON ACRE—continued

AVERAGE OF PROVINCES

FACILITY.	Year.	Wind.	Gen.	Supply.	Des.	Exp.	Dist.	Trans.	Fishes.	Veget.	Mammals.	Birds.	Insects.	Plants.	Fossils.	Other.
LAWRENCE.	1881	10-4	15-7	12-9	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1882	14-7	14-4	14-9	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1883	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1884	12-0	14-8	14-1	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1885	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1886	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1887	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1888	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1889	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1890	10-4	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
MORRIS.	1881	14-0	10-0	10-1	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1882	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1883	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1884	14-2	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1885	14-7	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1886	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1887	14-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1888	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1889	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1890	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
UTAH.	1881	14-3	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1882	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1883	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1884	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1885	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1886	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1887	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1888	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1889	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1890	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
CONRADSBURG.	1881	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1882	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1883	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1884	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1885	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1886	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1887	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1888	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1889	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0
	1890	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0	10-0

AVERAGE OF ISLAND.

[illegible]

TABLE 12.—*Number and Percent of Businesses and Self-Employed in Receipt of State Free-Low-Cost or Exempted in 1999*

[illegible]

[illegible]

THE UNIVERSITY OF SOUTHAMPTON LIBRARY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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TABLE 12.—RHEUMATISM THE NUMBER OF RHEUMATISM AND THE QUANTITY OF SHOCK IN EACH FROM LAW UNION OF IRELAND, IN 1890—continued.

FROM LAW UNION.	Number of Rheumatism cases.	No. of Districts.				No. of Divisions.				No. of Barons.				No. of Parishes.				No. of Townships.				
		Armagh County.	Down County.	Waterford County.	Other County.	Armagh County.	Down County.	Waterford County.	Other County.	Armagh County.	Down County.	Waterford County.	Other County.	Armagh County.	Down County.	Waterford County.	Other County.	Townships.	Barons.	Divisions.	Barons.	Townships.
Armagh	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Down	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Waterford	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Other	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Total	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Armagh	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Down	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Waterford	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Other	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070
Total	4,220	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070	50	50	50	5,070

TABLE 13.—SHOWING THE QUANTITY OF LIVE STOCK IN EACH YEAR FROM 1881 TO 1890, BY COUNTIES AND PROVINCES.

COUNTY.	Year.	No. of Horses.			Mules and Asses.		No. of Cattle.			No. of Sheep.		No. of Pigs.		No. of Bees.	No. of Poultry.
		Two years and upwards.	One year and upwards.	Under one year.	No. of Asses.	No. of Mules.	Two years and upwards.	One year and upwards.	Under one year.	Two years and upwards.	Under one year.	Two years and upwards.	Under one year.		
ANTRIM:	1881	26,180	2,928	1,492	50	678	16,130	27,066	33,313	34,259	20,820	4,945	41,872	5,054	438,186
	1882	26,810	2,978	1,572	61	685	16,185	26,764	34,325	35,391	19,128	7,634	41,987	4,779	446,617
	1883	26,116	3,099	1,609	72	615	17,303	26,685	39,354	35,337	19,317	6,367	47,425	4,805	444,137
	1884	26,246	3,081	1,713	65	518	16,127	31,760	39,438	39,437	19,110	7,483	47,425	4,244	436,493
	1885	26,340	3,050	1,661	71	582	30,664	34,185	39,793	33,665	23,325	8,479	45,642	4,736	470,882
	1886	26,823	3,700	1,960	76	456	34,934	24,189	36,666	28,721	25,519	5,322	51,901	5,721	477,113
	1887	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
Area, 111,259 Acres.	1881	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1882	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1883	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1884	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1885	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1886	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1887	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
ARMAGH:	1881	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1882	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1883	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1884	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1885	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1886	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1887	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
Area, 253,505 Acres.	1881	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1882	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1883	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1884	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1885	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1886	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1887	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
CARLOW:	1881	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1882	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1883	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1884	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1885	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1886	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1887	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
CORK:	1881	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1882	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1883	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1884	26,716	3,674	1,969	81	555	34,675	25,130	37,093	43,421	29,425	7,665	63,715	5,233	511,274
	1885	26,716	3,674	1,969	81	555	34,675	25							

TABLE 13.—SHOWING THE QUANTITY OF LIVE STOCK IN EACH YEAR FROM 1881 TO 1890, BY COUNTIES AND PROVINCES.—continued.

COUNTIES.	Year.	No. of Horses.			Mean per Acre.		No. of Cattle.			No. of Sheep.		No. of Pigs.		No. of Goats.	No. of Poultry.
		Two years and upwards.	One year and upwards.	Under one year.	No. of acres.	No. of acres.	Two years and upwards.	One year and upwards.	Under one year.	Two years and upwards.	Under one year.	Two years and upwards.	Under one year.		
Dorset:	1881	26,770	1,200	474	241	1,880	45,377	9,546	6,580	26,338	10,061	1,865	12,770	5,370	238,068
	1882	26,192	1,004	648	240	1,803	43,871	10,408	5,548	26,419	10,132	1,775	12,638	4,725	238,260
	1883	26,443	1,081	545	241	1,805	44,950	10,308	5,774	27,242	10,553	1,775	12,614	4,811	238,260
	1884	27,977	961	100	242	2,007	45,511	12,004	6,451	34,965	10,053	1,869	15,681	5,062	248,488
	1885	16,611	1,136	226	242	1,652	43,671	12,901	6,136	30,300	10,431	1,223	13,674	4,610	237,662
	1886	24,127	1,405	744	245	1,847	45,661	11,771	7,246	36,371	17,787	1,180	9,545	4,605	231,071
	1887	26,106	1,293	554	246	1,845	45,121	10,908	5,467	36,156	16,931	1,182	10,284	5,008	234,246
	1888	26,617	1,264	797	246	1,845	45,777	11,965	6,565	36,616	16,989	988	9,894	4,556	238,623
	1889	26,454	1,251	721	247	1,989	45,046	10,946	7,565	35,245	16,981	1,479	9,569	4,586	244,608
	1890	26,426	1,084	598	248	2,194	45,507	11,561	6,613	40,030	24,809	1,631	14,030	5,612	244,608
Fresno:	1881	6,643	543	364	158	4,080	93,673	12,820	23,307	8,882	5,794	1,065	14,670	4,441	290,949
	1882	5,996	381	389	160	3,972	92,939	12,946	27,224	8,619	5,905	3,741	22,633	4,306	288,579
	1883	4,963	399	482	148	4,236	91,695	13,661	30,371	4,607	5,335	2,467	20,486	4,156	288,200
	1884	5,737	399	465	158	5,041	91,251	14,716	29,357	2,052	5,267	2,466	19,564	4,615	288,471
	1885	5,956	431	478	148	5,863	94,798	19,371	27,006	4,441	5,369	2,796	20,684	4,918	290,223
	1886	5,706	485	472	146	4,040	90,715	14,646	30,151	4,177	5,074	2,466	19,735	4,116	292,805
	1887	5,913	438	514	141	4,183	86,173	14,176	26,139	8,668	5,373	8,498	22,553	4,575	292,841
	1888	6,145	634	614	150	4,181	94,225	14,433	27,180	8,668	5,800	3,244	21,272	4,412	335,655
	1889	6,529	477	585	154	4,367	93,821	15,412	27,089	6,185	7,375	3,294	24,666	4,907	451,136
	1890	6,466	498	514	164	4,642	93,472	14,463	27,465	6,151	7,794	3,298	25,384	5,468	432,566
Glasgow:	1881	16,412	4,816	4,319	1,647	34,785	167,506	46,467	39,584	365,620	168,102	7,885	48,125	16,630	731,820
	1882	16,360	5,101	5,515	1,721	35,718	166,912	47,409	37,090	348,740	158,102	5,628	50,566	16,062	740,280
	1883	16,400	4,111	4,612	1,721	35,718	167,812	47,409	37,090	348,740	158,102	5,628	50,566	16,062	740,280
	1884	16,729	4,278	5,001	2,020	16,803	167,418	48,340	38,509	358,515	173,306	8,455	51,411	16,062	740,280
	1885	16,734	4,201	5,225	2,020	16,803	167,418	48,340	38,509	358,515	173,306	8,455	51,411	16,062	740,280
	1886	16,683	4,534	5,123	2,131	16,817	167,736	48,354	38,532	349,867	167,364	8,260	51,596	11,694	743,181
	1887	16,699	5,148	5,148	2,131	16,817	167,736	48,354	38,532	349,867	167,364	8,260	51,596	11,694	743,181
	1888	16,471	5,148	5,148	2,131	16,817	167,736	48,354	38,532	349,867	167,364	8,260	51,596	11,694	743,181
	1889	16,471	5,148	5,148	2,131	16,817	167,736	48,354	38,532	349,867	167,364	8,260	51,596	11,694	743,181
	1890	16,471	5,148	5,148	2,131	16,817	167,736	48,354	38,532	349,867	167,364	8,260	51,596	11,694	743,181

TABLE 13.—SHOWING THE QUANTITY OF LIVE STOCK IN EACH YEAR FROM 1881 TO 1890, BY COUNTIES AND PROVINCES—continued.

COUNTIES.	Year.	No. of Horses.			No. of Cattle.		No. of Sheep.		No. of Pigs.		No. of Goats.	No. of Poultry.					
		Two years old and upwards.	One year old and upwards.	Under one year.	Two years old and upwards.	One year old and upwards.	Two years old and upwards.	One year old and upwards.	Under one year.	Under one year.							
LIMERICK.	1881	12,400	1,800	1,800	17,560	8,800	25,187	30,804	18,870	64,861	9,227	436,880					
	1882	12,400	1,800	1,800	16,000	7,700	23,187	30,804	18,870	62,861	9,227	436,880					
	1883	11,700	1,800	1,800	15,300	7,200	21,187	30,804	18,870	60,861	9,227	436,880					
	1884	11,200	1,800	1,800	14,800	6,800	19,187	30,804	18,870	58,861	9,227	436,880					
	1885	11,000	1,800	1,800	14,600	6,600	18,987	30,804	18,870	58,581	9,227	436,880					
	1886	11,200	1,800	1,800	14,800	6,800	19,187	30,804	18,870	58,861	9,227	436,880					
	1887	10,000	1,800	1,800	13,600	6,000	17,987	30,804	18,870	56,661	9,227	436,880					
	1888	11,800	1,800	1,800	15,400	7,000	20,187	30,804	18,870	60,861	9,227	436,880					
	1889	11,800	1,800	1,800	15,400	7,000	20,187	30,804	18,870	60,861	9,227	436,880					
	1890	12,000	1,800	1,800	15,600	7,200	20,387	30,804	18,870	61,061	9,227	436,880					
LONGFORD.	1881	18,410	1,900	1,900	22,210	27	400	400	28,610	28,724	38,868	27,544	97,036	2,250	20,691	4,000	370,430
	1882	17,910	1,800	1,800	21,510	26	350	350	28,110	28,524	38,868	27,544	96,936	2,250	20,691	4,000	370,430
	1883	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1884	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1885	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1886	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1887	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1888	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1889	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1890	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
LONGFORD.	1881	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1882	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1883	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1884	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1885	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1886	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1887	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1888	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1889	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
	1890	4,700	1,000	1,000	6,700	3,000	27,000	13,000	43,000	5,100	3,800	12,300	21,200	2,000	10,000	7,000	100,000
LONDONDERRY.	1881	18,410	1,900	1,900	22,210	27	400	400	28,610	28,724	38,868	27,544	97,036	2,250	20,691	4,000	370,430
	1882	17,910	1,800	1,800	21,510	26	350	350	28,110	28,524	38,868	27,544	96,936	2,250	20,691	4,000	370,430
	1883	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1884	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1885	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1886	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1887	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408	2,250	20,691	4,000	370,430
	1888	17,000	1,800	1,800	20,600	19	300	300	27,900	28,000	38,868	27,544	95,408				

TABLE 13.—SHOWING THE QUANTITY OF LIVE STOCK IN EACH YEAR FROM 1851 TO 1890, BY COUNTRY AND PROVINCE—continued.

COUNTIES.	Year.	No. of Steers.			No. of Cows.			No. of Horses.		No. of Pigs.		No. of Sheep.	No. of Goats.
		Two years and over.	One year and under.	Under one year.	Two years and over.	One year and under.	Under one year.	Two years and over.	One year and under.	Under one year.			
Essex :	1851	6,656	1,247	1,554	1,805	8,514	58,842	24,531	15,585	55,282	42,855	4,639	15,645
	1852	8,831	2,771	1,434	1,849	6,328	54,845	25,576	21,295	59,022	44,470	4,890	19,922
	1853	8,651	2,681	1,414	1,812	6,471	57,895	25,557	20,562	57,917	45,235	5,399	18,015
	1854	8,571	2,640	1,474	1,854	6,707	58,149	25,136	20,344	57,912	46,876	4,675	18,015
	1855	8,772	2,654	1,500	1,803	8,320	58,560	25,062	20,511	57,134	45,716	5,560	17,224
	1856	8,925	2,715	1,525	1,844	8,466	59,245	25,345	20,691	58,355	45,737	5,570	17,224
	1857	9,025	2,767	1,565	1,791	8,694	61,279	25,695	20,964	59,905	46,679	5,444	17,224
	1858	9,315	2,826	1,600	1,815	8,791	62,519	25,919	21,165	60,568	47,558	5,459	17,224
	1859	9,152	2,746	1,600	1,841	8,798	62,519	25,919	21,165	60,568	47,558	5,459	17,224
	1860	9,214	2,749	1,610	1,711	10,073	62,902	26,172	24,515	61,465	47,735	5,477	17,224
Gloucester :	1851	5,795	1,214	837	748	7,764	48,357	18,535	21,181	55,742	39,904	2,450	15,645
	1852	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1853	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1854	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1855	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1856	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1857	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1858	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1859	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
	1860	5,962	1,284	847	844	7,916	50,769	18,262	22,682	56,968	42,210	2,569	15,645
Hampshire :	1851	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1852	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1853	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1854	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1855	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1856	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1857	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1858	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1859	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
	1860	8,041	1,881	1,881	1,916	6,594	60,235	25,324	20,611	61,513	45,536	4,551	15,645
Hereford :	1851	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1852	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1853	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1854	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1855	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1856	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1857	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1858	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1859	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1860	20,525	5,541	5,541	5,541	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
Kent :	1851	22,559	5,675	5,675	5,675	12,511	133,730	52,554	57,545	153,816	80,404	8,517	15,645
	1852												

TABLE 13.—SHOWING THE QUANTITY OF LIVE STOCK IN EACH YEAR FROM 1881 TO 1890, BY COUNTRY AND PROVINCE—continued.

PROVINCES.

PROVINCE.	Year.	No. of Horses.			Mules and Asses.		No. of Cattle.			No. of Sheep.		No. of Pigs.		No. of Goats.	No. of Poultry.
		Previous year and year.	One year and under one year.	Under one year.	No. of Horses.	No. of Asses.	Previous year and year.	One year and under one year.	Under one year.	Previous year and year.	Under one year.	Previous year and year.	Under one year.		
LEINSTER.	1881	130,670	55,828	16,790	8,529	45,304	513,951	257,228	171,507	731,134	204,556	34,714	246,619	68,794	5,426,020
	1882	129,545	51,524	17,554	8,471	45,158	515,282	259,625	170,967	681,540	203,578	45,264	247,789	67,554	5,388,255
	1883	127,874	51,427	17,354	8,473	45,055	489,750	248,734	161,867	607,254	214,471	35,545	240,550	65,775	5,353,551
	1884	125,545	51,538	17,354	8,484	45,173	525,105	251,658	161,545	708,558	215,127	35,555	241,515	65,775	5,353,551
	1885	125,851	51,538	17,354	8,500	45,173	544,205	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1886	126,487	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1887	127,775	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1888	128,487	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1889	129,287	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1890	129,287	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
MUNSTER.	1881	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1882	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1883	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1884	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1885	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1886	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1887	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1888	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1889	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
	1890	68,554	16,692	14,253	5,416	54,478	748,561	355,064	227,788	470,882	199,492	48,315	515,515	58,405	3,426,020
ULSTER.	1881	130,670	55,828	16,790	8,529	45,304	513,951	257,228	171,507	731,134	204,556	34,714	246,619	68,794	5,426,020
	1882	129,545	51,524	17,554	8,471	45,158	515,282	259,625	170,967	681,540	203,578	45,264	247,789	67,554	5,388,255
	1883	127,874	51,427	17,354	8,473	45,055	489,750	248,734	161,867	607,254	214,471	35,545	240,550	65,775	5,353,551
	1884	125,545	51,538	17,354	8,484	45,173	525,105	251,658	161,545	708,558	215,127	35,555	241,515	65,775	5,353,551
	1885	125,851	51,538	17,354	8,500	45,173	544,205	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1886	126,487	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1887	127,775	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1888	128,487	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1889	129,287	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551
	1890	129,287	51,538	17,354	8,502	45,173	548,545	252,146	161,545	734,551	215,127	34,848	241,515	64,793	5,353,551

TOTAL OF IRELAND.

IRELAND.	Year.	No. of Horses.			Mules and Asses.		No. of Cattle.			No. of Sheep.		No. of Pigs.		No. of Goats.	No. of Poultry.
		Previous year and year.	One year and under one year.	Under one year.	No. of Horses.	No. of Asses.	Previous year and year.	One year and under one year.	Under one year.	Previous year and year.	Under one year.	Previous year and year.	Under one year.		
Total of Ireland.	1881	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1882	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1883	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1884	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1885	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1886	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1887	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1888	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1889	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851
	1890	426,070	152,850	50,230	26,466	150,146	1,771,463	869,516	570,762	2,142,818	624,251	117,773	1,208,953	212,994	16,551,851

TABLE 14.—SHOWING, by COUNTIES and PROVINCES, the Total Area under POTATOES in 1890, and the Extent in Statute Acres under each description of that crop.

COUNTIES.	Total extent under Potatoes in Statute Acres.	GENERAL NAMES OF THE DIFFERENT KINDS OF POTATOES PLANTED.													
		Champion.	Flintlock.	Sheep Head.	White South.	Magnum Bonum.	Essex.	Swiss Wonder.	Golden Wonder.	Twopenny.	American Beauty.	Lady's Finger.	American Wonder.	Red Jacket.	Green Eye.
ANTRIM,	45,078	22,154	1,018	8,831	894	2,069	868	202	1,185	1,185	442	1	1	26	2
ARMAGH,	26,384	19,820	2,308	5,561	431	643	219	362	98	1	471	1	1	1	500
CARLOW,	8,868	8,004	479	21	46	32	103	143	1	1	6	1	1	1	31
CATY,	20,015	24,090	3,143	943	294	11	370	158	1	1	40	1	1	1	45
CLARE,	21,389	13,090	2,457	403	538	1	180	355	1	1	9	270	1	1	302
CLONTAR,	65,720	44,420	4,351	143	443	1	403	338	1	1	9	1	1	1	18
DOONOGH,	45,007	20,893	2,778	1,810	3,119	1,135	613	809	13	1,010	184	1	365	105	2,280
DOWN,	40,220	20,830	2,443	8,394	800	2,167	313	474	1,315	29	415	1	1	1	1,690
DUBLIN,	5,540	5,177	847	35	261	144	3,235	140	1	1	12	1	1	1	43
DUNAMAS,	14,590	12,810	1,608	688	340	2	63	64	2	1	5	1	1	3	147
GALWAY,	45,992	37,512	3,449	84	738	1	129	194	1	1	8	1	1	1	73
KERRY,	26,124	24,837	5,341	200	815	1	168	130	1	1	4	1	1	1	410
KILBARR,	3,748	7,069	691	86	147	18	443	181	1	1	30	1	1	1	46
KILKEEN,	10,341	14,009	1,435	22	104	23	79	284	1	1	7	1	1	1	26
KING'S,	18,008	12,927	1,481	49	296	13	234	847	1	1	33	47	1	1	31
LEITH,	10,845	14,385	1,349	451	343	1	80	69	1	1	25	1	1	1	38
LIMERICK,	15,802	13,949	2,641	187	306	1	75	124	1	1	29	1	1	1	26
LOUGHRENN,	31,308	14,908	1,988	3,467	1,302	1,880	184	109	206	473	208	1	100	34	3,562
LONGFORD,	11,845	6,885	1,908	84	100	16	40	162	1	1	37	1	1	1	126
LOUTH and DOWN, County of Town,	11,370	8,088	942	351	345	482	250	106	1	1	43	1	1	25	100
MAYO,	46,878	41,660	3,038	279	486	1	141	102	1	1	8	1	1	1	3
MOUNT,	11,134	6,784	512	79	179	27	303	140	1	1	88	1	1	1	88
MOUNTG,	22,802	18,766	2,338	884	343	238	112	111	1	1	62	38	1	40	136
QUINN,	10,848	14,679	1,106	60	135	1	135	806	1	1	63	1	1	1	19
ROCKFORD,	21,328	20,638	2,604	135	420	1	119	100	1	1	23	1	1	1	60
SLIGO,	18,447	14,670	3,749	821	301	10	52	37	1	1	1	1	1	1	113
TIPPERARY,	31,309	20,878	2,630	107	471	1	181	163	1	1	27	3	1	1	140
TYRONE,	42,363	20,313	3,719	1,448	1,636	306	381	215	35	815	17	1	1	100	1,184
WATERFORD,	14,315	12,077	1,149	23	168	2	35	163	1	1	1	1	1	1	38
WATERLOO,	10,834	6,838	1,521	84	217	18	194	336	1	1	3	1	1	1	38
WEXFORD,	20,863	13,021	1,340	81	207	11	241	719	1	1	27	1	1	1	109
WICKLOW,	20,425	8,182	430	39	169	19	376	40	1	1	15	1	1	1	39
PROVINCES.															
CONVENT,	131,354	126,847	14,719	941	2,027	818	4,800	3,116	8	46	430	1	1	25	15
DOONOGH,	176,069	130,364	14,656	1,378	2,749	9	1,023	1,314	8	1	43	801	1	13	2,267
DOWN,	200,880	204,820	20,720	22,514	3,073	13,487	2,669	3,073	2,797	1,370	1,293	1	603	304	18,424
CONVENT,	145,410	130,135	12,466	1,237	2,199	19	396	718	1	1	30	1	1	3	149
Total of Ireland, 1890,	706,831	617,706	63,280	25,367	34,358	14,331	8,034	7,630	8,806	3,418	9,363	181	403	432	169
Percentage in 1890,	100	87	94	37	49	20	11	10	12	5	13	0	0	0	0
Total of Ireland, 1880,	787,334	638,081	64,100	26,760	35,164	13,252	8,623	8,388	9,601	1,861	1,754	220	351	365	81
Percentage in 1880,	100	82	94	35	45	18	12	10	12	2	2	0	0	0	0

TABLE 16.—SHOWING, by COUNTY, the average rate of Produce per statute acre of the principal descriptions of POTATOES planted in Ireland in 1890.

COUNTIES.	GENERAL NAMES OF THE DIFFERENT KINDS OF POTATOES PLANTED IN EACH COUNTY.														
	Champion	Flourish	Early Black	White	Marston	Kemp	Early	Early	Early	Early	Early	Early	Early	Early	Early
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
ANTRIM, . . .	67	63	62	59	68	66	67	55	-	63	-	-	-	-	75
ARMAGH, . . .	65	64	67	63	71	80	81	100	-	81	-	-	-	-	-
CARLOW, . . .	66	64	-	-	74	65	64	-	-	-	-	-	-	-	-
CAYMAN, . . .	48	42	43	30	-	40	37	-	-	24	-	-	-	-	-
CLARE, . . .	33	23	25	31	-	31	30	-	-	-	33	-	-	-	-
CO.	30	20	23	30	-	29	20	-	-	-	-	-	-	-	-
CO.	41	40	40	31	48	25	42	39	43	36	-	35	-	-	26
CO.	79	60	71	75	88	29	33	74	-	66	-	-	-	-	-
CO.	60	28	24	27	65	63	92	-	-	37	-	-	-	-	-
CO.	67	32	24	21	-	-	-	-	-	-	-	-	-	-	-
CO.	37	41	38	31	-	35	42	-	-	-	-	-	-	41	-
CO.	27	24	26	24	-	29	30	-	-	-	-	-	-	-	-
CO.	68	48	36	36	54	46	47	-	-	21	-	-	-	-	-
CO.	41	44	-	-	40	25	40	-	-	47	-	-	-	-	-
CO.	51	41	37	40	-	45	44	-	-	41	46	-	-	-	-
CO.	20	21	26	21	-	26	33	-	-	37	-	-	-	-	-
CO.	67	29	28	30	-	30	37	-	-	37	-	38	-	-	-
CO.	76	29	28	51	71	54	75	78	66	46	-	55	26	-	77
CO.	42	24	27	40	63	45	37	-	-	54	-	-	-	-	-
CO. and DUBLIN, County of Town.	55	63	71	32	51	72	68	-	-	-	-	-	-	-	-
CO.	20	26	28	24	-	33	44	-	-	-	-	-	-	-	-
CO.	46	49	47	46	51	46	48	-	-	28	-	-	-	-	-
CO.	45	33	37	30	68	-	28	-	-	32	-	-	-	-	-
CO.	54	32	-	32	-	37	47	-	-	-	-	-	-	-	-
CO.	61	26	28	36	-	20	24	-	-	30	-	-	-	28	-
CO.	41	40	33	33	-	33	28	-	-	-	-	-	-	-	-
CO.	44	41	48	30	-	36	38	-	-	43	-	-	-	-	-
CO.	54	31	34	53	75	69	28	-	68	-	-	-	29	-	-
CO.	55	28	-	39	-	40	33	-	-	-	-	-	-	-	-
CO.	40	41	40	35	26	35	41	-	-	29	-	-	-	48	-
CO.	45	44	46	43	52	47	41	-	-	82	-	-	-	-	-
CO.	48	29	35	28	66	39	37	-	-	35	-	-	-	-	-

TABLE A.—Showing, by Counties and Provinces, the

COUNTIES AND PROVINCES.	SHEEP.											
	TWO-SHEPERS.			THREE-SHEPERS.			HAGGERS.			BURNS.		
	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.
LEINSTER.												
Carlow,	8	0	11	12	0	12	1	0	1	0	0	0
Dublin,	8	7	15	6	0	6	0	0	0	0	0	0
Kildare,	20	1	21	3	0	3	0	0	0	0	0	0
Kilkenny,	12	0	12	17	0	17	1	0	1	0	0	0
King's,	10	0	10	10	1	11	1	0	1	0	0	0
Longford,	8	1	9	10	0	10	1	0	1	0	0	0
Louth,	7	1	8	7	0	7	1	0	1	0	1	1
Meath,	22	0	22	10	0	10	0	0	0	0	0	0
Queen's,	10	0	10	7	0	7	0	0	0	0	1	1
Westmeath,	10	0	10	12	0	12	0	0	0	0	0	0
Wexford,	22	0	22	10	0	10	0	0	0	0	1	1
Wicklow,	10	0	10	10	0	10	1	0	1	0	0	0
Total of Leinster,	151	40	191	100	1	101	5	0	5	0	2	2
MUNSTER.												
Cork,	20	0	20	10	0	10	0	0	0	0	0	0
Cork, E.R.,	87	0	87	32	0	32	0	0	0	0	0	0
Cork, W.D.,	8	0	10	10	0	10	0	0	0	0	0	0
Kerry,	12	0	12	10	0	10	1	0	1	0	0	0
Limerick,	10	0	10	10	0	10	0	0	0	0	0	0
Tipperary, E.R.,	10	0	10	10	0	10	0	0	0	0	0	0
Tipperary, E.R.,	10	0	10	10	0	10	0	0	0	0	0	0
Waterford,	10	0	10	10	0	10	0	0	0	0	0	0
Total of Munster,	110	0	110	100	0	100	1	0	1	0	0	0
ULSTER.												
Antrim,	8	0	10	10	0	10	0	1	1	0	0	1
Armagh,	0	0	0	0	0	0	0	0	0	0	1	1
Cavan,	8	1	9	10	0	10	0	0	0	0	0	0
Down,	8	0	10	8	0	8	0	0	0	0	0	0
Donegal,	10	0	10	10	1	11	1	1	2	0	1	1
Fermanagh,	8	0	8	8	0	8	0	0	0	0	0	0
Londonderry,	8	0	10	8	0	8	0	0	0	0	0	0
Monaghan,	8	0	8	10	0	10	0	0	0	0	0	0
Tyrone,	10	0	10	10	1	11	1	0	1	0	0	0
Total of Ulster,	80	1	81	100	2	102	2	2	3	0	2	2
CONNAUGHT.												
Galway,	10	0	10	10	0	10	0	0	0	0	0	0
Laois,	8	0	8	8	0	8	0	0	0	0	0	0
Mayo,	10	0	10	11	1	12	0	0	0	0	0	0
Sligo,	10	0	10	8	0	8	1	0	1	0	0	0
Total of Connaught,	40	0	40	40	1	41	1	0	1	0	0	0
Total of IRELAND,	401	41	442	400	3	403	8	2	10	0	4	4

* For a detailed statement of the Sheep tabulated.

Number of Sires serving MARES in Ireland in the Year 1890.

BREED.						ALL OTHER BREEDS.			TOTAL.			COUNTIES AND PROVINCES.
CATTLE.			HORSES.			TOTAL.			TOTAL.			
Bred in Ireland.	Im- ported.	Total.	Bred in Ireland.	Im- ported.	Total.	Bred in Ireland.	Im- ported.	Total.	Bred in Ireland.	Im- ported.	Total.	
LEINSTER.												
2	0	2	12	0	12	1	1	2	27	4	31	Carlow.
2	2	12	7	1	8	0	1	1	26	22	48	Dublin.
1	0	2	17	0	17	0	0	0	27	2	29	Kildare.
2	2	12	22	1	23	4	1	5	72	12	84	Kilkenny.
7	1	8	12	0	12	2	1	3	22	22	44	King's.
2	0	2	4	0	4	1	0	1	22	1	23	Longford.
14	2	16	21	0	21	0	2	2	42	2	44	Louth.
7	1	8	22	0	22	2	0	2	22	22	44	Monaghan.
2	0	2	22	0	22	1	0	1	22	4	26	Queen's.
1	2	3	12	0	12	0	0	0	22	2	24	Westmeath.
2	0	2	17	0	17	0	1	1	22	22	44	Wexford.
1	0	1	7	0	7	4	0	4	22	2	24	Wicklow.
67	11	78	112	2	114	12	2	14	222	112	334	Total of Leinster.
MUNSTER.												
2	0	2	2	0	2	1	0	1	22	2	24	Clare.
2	2	4	22	0	22	1	2	3	112	22	134	Cork, E.R.
7	1	8	22	0	22	2	0	2	42	2	44	Cork, W.R.
2	0	2	22	0	22	1	0	1	22	4	26	Kerry.
2	0	2	4	0	4	0	0	0	42	2	44	Limerick.
2	1	3	7	0	7	2	0	2	22	12	34	Tipperary, N.R.
2	0	2	2	0	2	0	0	0	21	22	43	Tipperary, E.R.
0	0	0	12	0	12	0	0	0	42	2	44	Waterford.
21	3	24	112	0	112	2	2	4	424	42	466	Total of Munster.
ULSTER.												
12	2	14	12	2	14	1	1	2	22	22	44	Antrim.
1	0	1	2	0	2	1	2	3	11	2	13	Armagh.
2	0	2	22	0	22	0	0	0	22	1	23	Cross.
7	2	9	12	1	13	1	0	1	22	2	24	Dougal.
2	4	6	2	0	2	1	0	1	22	12	34	Dunn.
2	0	2	1	1	2	1	0	1	22	2	24	Fermanagh.
22	1	23	2	0	2	2	0	2	42	2	44	Londonderry.
2	0	2	22	0	22	0	0	0	22	2	24	Monaghan.
2	1	3	12	0	12	2	1	3	21	7	28	Tyrone.
62	12	74	92	2	94	12	2	14	222	22	244	Total of Ulster.
CONNAUGHT.												
2	2	4	22	0	22	1	0	1	121	7	128	Galway.
0	0	0	7	0	7	0	0	0	12	0	12	Leitrim.
2	0	2	22	0	22	2	0	2	22	2	24	Mayo.
2	1	3	2	0	2	0	0	0	27	4	31	Meath.
1	0	1	2	0	2	0	0	0	22	4	26	Sligo.
17	2	19	92	0	92	2	0	2	222	12	234	Total of Connaught.
127	16	143	422	2	424	22	11	33	1,227	222	1,449	Total of Ireland.

under the head All other Breeds in 1889, see page 76.

TABLE B—Showing, by Counties and Provinces, the number

COUNTIES AND PROVINCES.	SHEEP.														
	DUBLIN.			MUNSTER.			LEINSTER.			ULSTER.			CONNAUGHT.		
	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.	Head in Ireland.	Imported.	Total.
LEINSTER.															
Carlow,	72	-	72	3	-	3	3	-	3	-	-	-	9	-	9
Dublin,	78	-	78	1	-	1	4	-	4	-	1	4	4	-	8
Kildare,	27	-	27	1	-	1	1	4	5	-	1	5	5	-	10
Kilkenny,	150	-	150	3	-	3	-	-	-	-	-	-	-	-	-
Ling's,	81	-	81	1	-	1	-	-	-	-	-	-	-	-	-
Longford,	70	2	72	3	-	3	2	1	3	-	-	-	-	-	-
Louth,	75	3	78	2	-	2	2	-	2	-	1	3	-	-	-
Meath,	28	1	29	10	2	12	1	-	1	3	1	5	3	4	8
Queen's,	32	-	32	-	1	1	3	3	6	-	-	-	2	-	2
Westmeath,	26	3	29	2	2	4	2	2	4	-	-	-	-	-	-
Wexford,	22	-	22	3	-	3	2	-	2	-	-	-	-	-	-
Wicklow,	109	-	109	2	-	2	2	2	4	-	-	-	2	-	2
Total of Leinster,	1,422	9	1,431	76	5	81	80	12	42	5	2	5	19	14	33
MUNSTER.															
Cork,	308	3	311	4	-	4	-	-	-	2	-	2	3	-	5
Cork, S.E.,	208	3	211	1	3	4	-	1	1	-	-	-	2	-	2
Cork, W.E.,	242	1	243	2	2	4	1	1	2	-	-	-	2	-	2
Kerry,	216	1	217	-	-	-	-	-	-	-	-	-	49	49	98
Gloucester,	188	-	188	1	-	1	-	-	-	1	-	1	1	-	2
Tipperary, S.E.,	30	4	34	-	-	-	-	-	-	2	2	-	-	-	-
Tipperary, S.W.,	189	-	189	-	-	-	2	1	3	-	1	2	2	-	4
Waterford,	120	-	120	2	-	2	-	-	-	-	-	-	-	-	-
Total of Munster,	1,422	11	1,433	10	5	15	4	2	3	3	2	7	22	49	71
ULSTER.															
Armagh,	333	4	337	-	-	-	1	-	1	-	-	-	2	-	2
Armagh,	120	-	120	-	-	-	-	-	-	-	-	-	-	-	-
Carroll,	189	-	189	7	-	7	-	-	-	1	-	1	-	-	-
Down,	167	3	170	-	-	-	7	1	8	-	-	-	2	-	2
Down,	272	4	276	1	-	1	6	-	6	-	-	-	2	-	2
Fermanagh,	128	-	128	1	-	1	4	-	4	-	-	-	-	-	-
Londonderry,	114	2	116	-	-	-	2	-	2	-	1	1	1	-	2
Monaghan,	121	-	121	2	-	2	-	-	-	-	-	-	2	-	2
Tyrone,	254	4	258	2	-	2	2	4	6	1	1	2	2	-	4
Total of Ulster,	1,466	18	1,484	12	5	17	25	5	22	2	2	4	20	22	42
CONNAUGHT.															
Galway,	104	1	105	2	1	3	12	2	14	-	1	1	2	-	2
Leitrim,	107	-	107	-	-	-	2	-	2	-	-	-	-	-	-
Mayo,	90	-	90	2	-	2	12	2	14	-	1	1	2	-	2
Sligo,	104	-	104	-	-	-	-	-	-	-	-	-	2	-	2
Total of Connaught,	245	1	246	4	1	5	26	4	30	1	2	3	4	2	6
Total of Ireland,	4,290	28	4,318	108	11	119	85	22	121	12	7	12	107	81	189

* For a detailed statement of the Irish sheep trade.

of BULLS serving Cows in Ireland during the year 1890.

BREED.									All Other Breeds.			Totals.			COUNTIES AND PROVINCES.
January.			October.			Cross Breeds.			Bred in Ireland.	Imported.	Total.	Bred in Ireland.	Imported.	Total.	
Bred in Ireland.	Imported.	Total.	Bred in Ireland.	Imported.	Total.	Bred in Ireland.	Imported.	Total.							
LEINSTER.															
0	-	0	-	-	-	10	-	10	0	-	0	107	-	107	Carlow.
7	2	10	-	-	-	0	-	0	0	-	0	100	0	100	Dublin.
1	1	2	-	-	-	7	-	7	0	-	0	77	0	77	Kildare.
-	-	-	-	-	-	10	-	10	0	-	0	200	0	200	Kilkenny.
-	-	-	-	-	-	40	-	40	4	-	4	140	-	140	King's.
0	-	0	-	-	-	20	-	20	0	-	0	100	0	100	Louth.
-	-	-	2	1	3	10	-	10	0	0	0	140	0	140	Meath.
-	1	1	-	-	-	11	-	11	7	-	7	101	0	101	Monaghan.
0	-	0	-	-	-	21	-	21	-	-	-	100	0	100	Queen's.
-	-	-	-	-	-	0	-	0	0	-	0	100	0	100	Westmeath.
0	-	0	-	-	-	20	-	20	-	-	-	140	-	140	Wexford.
-	1	1	-	-	-	20	-	20	4	-	4	140	0	140	Wicklow.
10	0	10	2	1	3	100	-	100	10	0	10	1,000	0	1,010	Total of Leinster.
MUNSTER.															
0	-	0	-	-	-	20	-	20	12	-	12	107	0	107	Clare.
0	0	0	0	0	0	20	-	20	0	-	0	100	0	100	Cork, E.R.
-	-	-	1	-	1	120	-	120	12	-	12	101	0	101	Cork, W.R.
1	-	1	-	-	-	120	-	120	0	-	0	101	0	101	Kerry.
-	-	-	-	-	-	20	-	20	0	-	0	100	-	100	Limerick.
-	1	1	-	-	-	20	-	20	0	-	0	100	0	100	Tipperary, E.R.
-	-	-	-	-	-	107	-	107	7	-	7	100	-	100	Tipperary, S.E.
0	-	0	-	-	-	20	-	20	0	-	0	101	-	101	Waterford.
0	0	0	0	0	0	100	-	100	10	-	10	1,000	0	1,010	Total of Munster.
ULSTER.															
-	2	2	2	2	2	0	-	0	20	0	20	100	10	100	Andromeda.
-	-	-	-	-	-	20	-	20	10	-	10	100	-	100	Armagh.
-	-	-	-	-	-	20	-	20	10	-	10	100	-	100	Cavan.
-	1	1	-	1	1	0	-	0	10	-	10	100	0	100	Down.
0	-	0	1	-	1	40	-	40	20	-	20	100	0	100	Fermanagh.
-	0	0	-	-	-	20	-	20	0	-	0	100	0	100	Londonderry.
-	-	-	-	1	1	20	-	20	10	0	10	100	10	100	Monaghan.
-	-	-	-	-	-	0	-	0	0	-	0	100	0	100	Tyrone.
1	0	1	-	1	1	0	-	0	10	0	10	100	10	100	Total of Ulster.
0	0	0	0	0	0	100	-	100	10	0	10	1,000	0	1,010	Total of Ulster.
CONNAUGHT.															
-	1	1	-	-	-	0	-	0	10	0	10	100	0	100	Galway.
-	-	-	-	-	-	40	-	40	0	-	0	100	0	100	Leitrim.
-	-	-	-	-	-	0	-	0	10	0	10	100	0	100	Mayo.
-	-	-	-	-	-	20	-	20	0	-	0	100	-	100	Sligo.
-	-	-	-	-	-	0	-	0	0	-	0	100	-	100	Sligo.
0	1	1	1	-	1	100	-	100	10	0	10	1,000	0	1,010	Total of Connaught.
10	10	20	0	0	0	1,000	-	1,000	10	0	10	1,000	10	1,010	Total of Ireland.

Under the head of all other Breeds in 1890, average 25.

AGRICULTURAL MACHINES.

TABLE C.—Showing the Number of AGRICULTURAL MACHINES in Ireland in 1890, having for their object the diminution of Manual Labour, the power employed in working them, and the Total Number in the Years 1865, 1875, 1881, and 1886.

NAMES OF MACHINES.	1890.					Total in 1865.	Total in 1871.	Total in 1875.	Total in 1886.
	Power Employed.				Total Number.				
	Water.	Steam.	Wind.	Manual.					
Rice Crushing Machines,	1	2	—	2	5	2	2	12	18
Churning Machines,	48	81	2,812	47	2,798	2,682	2,816	2,612	268
Force Cutters,	2	—	18	181	201	202	470	2,228	222
Grubbers,	—	3	200	1	204	212	268	701	612
Harrow (Steel),	—	3	—	—	3	2	2	2	—
Hay, Cane, and Straw Cutters,	22	22	20	185	249	254	2,124	1,422	2,208
Hay Collectors and Rakes,	—	1	4,122	2	4,125	8,122	4,122	1,422	8,412
Hay-making Machines,	—	1	2,222	—	2,223	2,222	2,222	2,222	1,222
Hoe,	—	—	—	—	—	—	7	2	24
Land Reclaim,	—	—	222	2	224	44	122	442	222
Manure Distributors,	—	—	12	—	12	2	2	12	—
Mowing Machines,	—	2	2,422	—	2,424	2,422	11,212	16,212	2,422
Mowing and Reaping Machines (Combined),	—	—	2,222	—	2,222	1,212	—	—	—
Oat Presses,	22	22	22	22	88	22	22	222	17
Oil Cake Breakers,	2	2	22	22	48	47	222	222	72
Pileage (Steam),	—	2	—	—	2	2	2	2	—
Potato Diggers,	—	—	222	—	222	222	22	12	22
Reaping Machines,	—	2	2,222	—	2,224	2,222	2,222	2,222	212
Road Engines,	—	—	—	—	—	4	22	22	22
Road Pulpers,	22	12	127	222	223	221	2,222	2,222	222
Seeders,	—	—	22	—	22	22	22	222	222
Threshing Machines,	222	222	2,222	22	2,224	2,222	12,222	12,412	2,122
Turnip, Cam, &c., Sowing Machines,	2	—	1,222	222	2,224	1,222	2,222	4,222	2,224
Turnip Seeds and Root Cutters,	22	2	22	22	47	22	2,222	1,222	222
Turnip Thinners and Rakes,	—	—	4	—	4	2	22	22	22
Winnowing Machines,	2	24	222	1,122	1,444	222	2,222	2,222	1,222
Total,	222	227	22,227	2,222	22,272	22,224	22,222	22,224	22,222

In addition to the above-named machines, the following were enumerated in the Returns for 1890, viz.:—100 churning and threshing machines; 54 reaping and binding machines; 37 cabbage-cutting machines; 37 mowing, tedding and raking machines; 27 milk separators; 23 threshing and winnowing machines; 8 grinding machines; 7 hay-pressing machines; 6 butter-making machines; 6 food-preparing machines; 3 corn gatherers; 3 cultivators; 3 mowing and raking machines; 2 corn-cleaning machines; 2 force pumps (in creameries); 2 hay lifts; 2 threshing, sawing, and hay-chopping machines; 1 binding machine; 1 butter breaker; 1 crushing machine; 1 crusher (grist mill); 1 corn-grinding machine; 1 hay-cutter and oat-crusher; 1 churning and winnowing machine; 1 churning and chaff-cutting machine; 1 elevator; 1 reaping and raking machine; 1 rumble; 1 threshing, winnowing, and bagging machine; 1 threshing and sawing machine; 1 threshing, pulping, and hay-cutting machine; 1 threshing, grinding, pumping, and timber cutting machine; 1 threshing and oat-and-take crushing machine; 1 threshing and grinding machine; 1 Silo machine; 1 salt crusher; 1 turnip raiser; 1 electric power threshing machine; 1 gas power threshing machine; 1 gas power pulping machine.

OBSERVATIONS

OF THE

DISTRICT INSPECTORS OF THE ROYAL IRISH CONSTABULARY AND OF
THE SERGEANTS OF THE METROPOLITAN POLICE,

WHO ACTED AS SUPERINTENDENTS OF THE AGRICULTURAL STATISTICS;

IN REPLY TO A CIRCULAR DATED 29TH OCTOBER, 1890, ON THE PROBABLE CAUSE TO WHICH THE GOOD
OR BAD YIELD OF THE VARIOUS CROPS IN EACH OF THEIR DISTRICTS MAY BE ATTRIBUTED.

PROVINCE OF LEINSTER.

CARLOW COUNTY. *Signaldown D.*—As far as my personal experience goes, and I have examined the crops very carefully in every part of this district, it is generally better than was at first expected, in the good land where the seed was sown early and not too well manured the crop has been good, in bad wet land the crop has been bad, it is not so much that the tuber is uncounted in these places but that they are so small and only of use for feeding poultry and pigs. I believe the disease to be attributable to worn out seed that is bought by many of the small farmers, instead of importing good seed. To conclude, the crop has been better than was at first anticipated. *Carlow D.*—There was no injury by insects, &c., to crops in this district. The bad yield is caused by—*I.* Not making the planting earlier in the season. *II.* By putting in old seed again and again in the same land. *III.* By re-planting the same crops in the same fields year after year.

DUBLIN COUNTY. *Ballbrigan D.*—After careful inquiry I find that there has been no injury done to crops by insects, fungi, or weeds, injurious to farm crops in this district during the past season. *Glenny D.*—The yield of the potato crop in this district has in comparison with other years been fairly good this year, and the probable cause of the disease may, in my opinion, be attributed to the wet season, and old seed. I believe it would be beneficial to change the soil more frequently. *College-street D.*—I beg to state that the yield of the various crops in my district for year 1890, was similar to previous years with two exceptions, viz.:—The potatoes were good except in one instance, i.e., the Deaf and Dumb Institution, Clonsilla, in that case the quarter of the crop was diseased and wholly unfit for use. In the other case the yield of beans and peas was not so good as in former years, principally owing to the wet season. *Dundrum D.*—The yield of the potato crop about Carrickmoline, Cabinteely, Ballybrack, Shankill, was much better in regard to champions, white rocks, and kemps, than that in other portions of the district, the other kinds of potatoes are not grown there except flounders, for which the percentage is the same throughout. The great difference in yield is, in my opinion, very much due to the fact that comparatively little rain fell in that neighbourhood in proportion to the heavy rainfall elsewhere. There has been, so far as I can learn, no appreciable damage done to crops by insects, &c., save in one or two instances where the turnips seem to have suffered from something resembling, in one case a dry rot, and in another, by as stated, a kind of worm. The other crops generally seem good. *Kilgusheen D.*—From the inquiries made by the several enumerators in my district with regard to the potato crop of 1890, it appears to be upon the whole nearly up to the average

of former years. There is about three-quarters of the crop sound, and the remainder, viz.:—a quarter partially diseased and small, owing principally to the wet season. *Lacken D.*—The general opinion all through this district is that the bad state of the potato crop has been caused by wet weather. I cannot find that any special injury has been caused by insects, fungi, or weeds. *Rodrigues D.*—There has been a slight decrease in the produce of every kind of crop grown in this district except cabbage, which the farmers state is better than it has been for the three preceding years. The only crop in which there is a perceptible decrease is potatoes. The growers of this crop state that the only reason they can assign for this failure is that the blight came upon the potatoes this year earlier than in previous years owing to the dampness of the season. The farmers also state that they have not observed any injury to their potatoes from insects, fungi, or any other cause, except the blight.

KILDARE COUNTY. *Kilmore D.*—All the crops have been interfered with by rain, especially potatoes, which are injured by blight. No special injuries to crops from insects or fungi are reported. *Naas D.*—The low average yield of potatoes is entirely owing to the wet season, and not to the ravages of noxious insects, &c.; wherever new seed was planted in reasonably dry soil the yield was good; the only kind of potatoes grown to any extent are champions, kemps, and flounders. Other root crops are excellent, the corn crops were a fair average. *Robertstown D.*—In general, about a quarter crop was bad about here, and a quarter small. A potato called "Blacksmiths" was sown in a good stony small garden, and showed a very bad yield.

KILKENNY COUNTY. *Callow D.*—The crops in this district were very good this season, with the exception of the potato crop, which was seriously injured by the blight. Potatoes set in March returned a good crop in fresh land, as they escaped the heavy rains. Potatoes set in late April and May were seriously affected by the blight. The farmers here do not consider that their crops were injured by insects or fungi to any estimated degree. *Castlecomer D.*—The probable cause of partial failure in the various crops can solely be attributed to the wet and very inclement weather during the late spring, and throughout the whole summer. This affected all general crops as well as the potato crop. With regard to insects I cannot discover that they have done more injury to crops during this year than at any previous time, or probably not so much. *Kilbegny D.*—The wetness of the middle months of summer, caused potatoes on wet low-lying and unimproved land to be partially diseased and in-

Provinces &
Leinster.

ferior. A good sign at the present time, however, is that the price is slightly falling, an indication that scarcity is not apprehended. In the tabular form of percentages of disease of the potato crop, the superiority of the champion variety is not impeded by its comparison with the standard, as the former is the main crop of the country and is not dug till the autumn, while the latter is grown to a comparatively small extent for consumption in July and August, and these were dug (except the small quantity kept for seed) before the disease appeared to any extent. *Jacksontown D.*—The yield of crops in this district is as follows:—Wheat which is not sown to any great extent in districts gave a bad yield owing to the wet season and land not being suitable for it. Barley also gave a poor yield which is attributed to the very wet season. Oats was a fair average crop, and farmers appear satisfied with the yield; they say the moisture in the beginning of the season is the cause—moist season being, it seems, unfavourable for wheat and barley, but favourable for oats. Mangolds and turnips are also good crops, which is attributed to the moist season. Hay has not given as good yield as previous years, the season being too dry and parched in the beginning. Potatoes, on the whole, are a two-thirds crop, and such are of a small size generally. The season being wet and generally unfavourable. I cannot offer any remark as to insects and their ravages. *Fulleton D.*—The yield of the various crops in my district this year has been good, except potatoes, which have partially failed, the crop being only about two-thirds of the average. This partial failure seems attributable to an unusually early appearance of disease before the tubers in late sown crops were properly formed; the disease spread during the cold wet weather in July and August, but subsequent seasonable weather greatly checked its progress. Champions and standards are the description of potatoes principally grown, and they appear to have been affected by disease to about the same extent. Cereals promised very well until injured by the excessive rainfall in August; fine weather fortunately set in soon after the harvest commenced before very much damage had been done, so that after all an average crop was realized. Hay was an abundant crop, but much of it has been badly saved in consequence of unfavourable weather. The season has been favourable for turnips and mangolds, the yield of these crops being above the average. I find that no material injury has been done to the crops by insects or fungi, although in certain cases wire-worms have done a certain amount of mischief to potatoes. *Thornstown D.*—It is unnecessary to go into detail regarding the causes of potato failure. With the exception of the failure in that crop the others may be characterized as good. Oats especially so, and wheat and barley average. Turnips and mangolds never better. Hay is plentiful, but a good deal of it indifferently saved.

Kinn's County. Edinberry D.—Without any apparent reason the potato crops vary tremendously. On one farm you will find hardly any disease, and on the very next farm all are diseased, and on another though not diseased, they are not larger than marbles. I would say that taking the whole district into account about one-third are sound, one-third partially diseased, and one-third quite gone. All the other crops are good. Owing to the wet season a quantity of hay was very badly saved. *Ferbane D.*—The grain and root crops in this district were very good crops. With the exception of the potato crop the yield has been considered satisfactory. Hay was good in uplands, but that grown on lowlands and old meadow lands was light. The frosts in May checked the growth of potatoes and left them so weak to resist the attack of blight which came early in August. I cannot learn that any special injury has resulted from insects, &c. The book supplied will be of great service next year in guiding the inquiries of the enumerators so that fuller

information may be given to the statistical department as to such injuries. *Parsonstown D.*—The wet season, and want of heat in months of July and August of this year was to a great measure the cause of the bad yield. *Fullemore D.*—Owing to the incessant rains of the past three months, the potato crop is not up to the average, although there is a fair percentage of sound tubers, particularly in the sorts that come in early. I attribute much of the failure to want of proper cultivation, which in innumerable forms is prejudicial to a healthy good crop.

Longford County. Ballymahon D.—The crops in this district were generally up to the average except the potato crop, which has suffered considerably from the wet season, and I believe also from want of change of seed. There has not been any special injury to crops observed to have been done by noxious insects or fungi. Woods generally are injurious to crops of all kinds, and have done some injury in this district, but farmers, as a rule, will not attend to their eradication. *Greenard D.*—The partial failure in the potato crop is attributed to the wetness of the early part of the season. Not much damage has been done to the crops by fungi or insects, but considerable tracks are overrun with weeds. *Longford D.*—It is hardly necessary to observe that the bad yield of the potato crops is due to the "blight," and the constant wet weather. The good yield of oats is attributed to the moist spring. In one part of the district (Lansboro'), it is stated that the cabbage crop is not good owing to the ravages of grubs.

Long County. Ardee D.—The partial disease in the potato crop in this district is altogether attributed to the inclemency of the weather last summer. *Colton D.*—The potato crop here has been only fair. In every case where potatoes were planted early, with change of seed, and in fresh ground they withstood the blight. The planting early appears to have been the most certain preventive as the farmers say that when such a course was pursued the potato was too strong on the arrival of blight to be affected by it. In most cases however the disease, they say, arrived a fortnight or three weeks before the potato was fit to resist the attack. The Sherry line potato appears to have been the hardest of the lot. I find that when the individual potatoes of the crop have been small a larger percentage have been sound than when they were large, and in these cases I fancy not much manure was used which might result in the potato not being too much forced at the commencement of its growth and being consequently strong to resist disease. I cannot find that any observations of insects or fungi has been made save the attacks of the white slug on the stalks. *Droghda D.*—Hay, oats, turnips and mangolds have been good owing to the continued moisture in the early part of the season which favoured the growth of young plants; the moisture which favoured these crops has been injurious to potatoes, particularly in low-lying or bog lands, which require a hot season. Inquiries have been made by the several enumerators in this district as to the ravages of noxious insects on crops, and they report that cabbage has slightly suffered from caterpillars, no other crop has suffered from insects. *Dundalk D.*—The good yield of the various crops in this district for present year may be attributed to good cultivation, and tolerably good weather.

Meath County. Ashby D.—The potato crop in this district is generally a very poor one, owing to the early appearance of disease, caused by (1) wet weather, (2) the prevailing habit of sowing the crop in worn-out soil, (3) using as seed, chiefly potatoes grown in the same land. The grain crops were much above the average, being not so much injured by wet weather. Turnips and mangolds are also good for same reason, and hay was

a very abundant crop. So far as I have been able to ascertain no special damage has been done to the crops in this district by insects or fungi during this season. *Dunstable D.*—The potato crop would have been very good, had it not been for the heavy frost on the 28th May which burned down the stalks, then in the latter end of July the discomper got hold on the crops before it had come to maturity. This, combined with the constant damp weather during August and part of September, is believed to be the cause of the failure, particularly in heavy land. I beg to add that as far as I can learn none of the potato crop is entirely lost, as the people and all that was bad for feeding their pigs, &c. *Kells D.*—The good yield of hay, oats and turnips in this district is attributed to the good season which favoured the soil, and the bad yield of the potato crop, to the early setting in of blight and disease. As far as I could ascertain, the crops in this district suffered no special injury from insects, or fungi, during past season. *Stones D.*—Potatoes are a limited crop in this locality and the only sort sown are champion, except a very inconsiderable quantity of early potatoes which were consumed before the blight appeared. The injury to the crop is attributed to the dampness of the season and the early appearance of the blight. The people have not the slightest idea of injury from insects or fungi, except that they believe a hard frosty winter does kill insects in the ground. *Stane D.*—I have not been able to obtain any information relative to special injury to crops in this district for past season from insects or fungi. *Trin D.*—The failure (partial) in the potato crop is principally due in the early sorts to prevalence of heavy frosts in May last, and in the later sorts to continuous rain. From inquiry I cannot however discover that any material damage was caused either by noxious insects or weeds.

Quaker's County. Abbeydale D.—The principal crop grown in this district is champion potatoes, about 50 per cent. of the whole. With the exception of the potato crop, which has failed to the extent of about one-third, all the others have done exceedingly well, root crops especially. Hay and straw are also abundant. *Salisbury D.*—There was a good yield of all the crops in this district, except potatoes. Owing to the wet season and poverty of some of the land, this crop has not been as good a yield as in former years. I think this bad yield may also be attributable to a want of change of seed by the farmers. *Margborough D.*—I have not heard of any insects injuring the crops in this district, but I observe that farmers are very careless regarding the weeding of their crops. Weeds are most injurious to all kinds of crops. They absorb that which should go to nourish the roots, and thereby impoverish both present and future crops. Potatoes fail more rapidly in dirty wet land than they do in dry clean land. Some farmers have not sufficient help to enable them to keep their crop thoroughly weeded, and perhaps are unable to pay labourers; others are careless, and do not appreciate the value of such work. I fear this state of things is likely to continue, as most people like to go on as usual without any change for the better. *Mountrath D.*—Hay has been a good crop so far as yield, but quality, especially old meadow hay, is below average, owing to the very wet weather which prevailed during July last. First-crop hay in many cases was sowed during comparatively dry weather. Oats is well up to average in yield, but quality is not so good as other years, which is entirely attributable to wet season, and same remark applies with greater force to barley. Turnips are an average crop. Mangolds in many cases ran to seed, owing to wet season. Failure of potato crop is attributable to the very wet season, and in many cases matters have been made worse by the bad system of cultivation adopted by many of the smaller farmers. Potatoes sown on boggy or heavy and badly drained land have

naturally suffered most. Potatoes sown comparatively early on well-drained ground and assisted by the application of artificial manures, appear to have done best. The cold and wet season appears to have been adverse to the existence of insect pests and fungi, excepting, of course, potato blight.

Westmeath County. Castleguard D.—The failure of the crop is due to the extreme wetness of the season, also to the early attack of the blight, the tubers not being sufficiently developed to withstand it. There has been no damage done by noxious insects, nor any attributable to fungi or weeds. In the fully developed potatoes were not so much affected by the extreme damp, and were sufficiently developed to withstand the blight. *Delvin D.*—All the crops this year were fairly good, with the exception of potatoes, which have been a partial failure (50 to 60 per cent. of entire crop being bad), owing to blight, probably being caused by the continuous wet weather in the early part of the season. *Killeggan D.*—Very few potatoes are grown in this district except champions and founders. The good yield of root crops and cereals is due to the plentiful rains. These crops were, however, slightly injured by the rain at harvest time. The potato failure is due to:—(1.) Early frosts. (2.) Wet season. (3.) In a few instances growth of fungi. (4.) Growth of weeds, after the blight had set in. (5.) In a few cases late planting. (1.) Only applies to boggy land and moorland. *Moate D.*—As is well known, the potato crop has been a bad one this season, not half as good as the average. This appears due, firstly, to the early frosts which cut away the stalks, and, secondly, to the amount of weeds which smothered the growth of the young potatoes. This large amount of weeds is to a great extent no doubt due to the wet season. When the weeds are not removed they naturally harbour insects which injure the young potatoes. I am informed that the same remarks also apply to other crops, such as oats. The wet season has naturally favoured such crops as cabbages. *Mulnaghar D.*—The crops generally, with the exception of the potatoes, have been good in this district. The failure of the potatoes is ascribed to the early blight brought on by the wet season. As regards ravages by noxious insects, in some portions of the district the turnip crop suffered from a maggot resembling that found in sheep. It is the first time it has appeared in this district, I am informed. I presume this must be the grub of the root fly described in the "Special Report" you have been kind enough to send me. The damage to the crop, however, have not been general nor extensive. The land is pretty good generally, and that under tillage is well framed, and there does not appear to have been any damage of sufficient extent to be noticed as caused by insects or fungi. I am not aware of what is the exact nature of the potato blight, but it seems to be caused by sudden changes of temperature, and the weekly plants succumb, their weakness having originated in rapid growth during damp weather, causing fungus on the tuber when the leaves have been destroyed by blight.

Wexford County. Binstedry D.—The bad yield of potatoes this year was owing to the wetness of the season. The blight set in very early and stopped the growth of the tubers before they came to maturity. The other crops were about an average in this district; quality of grain not up to average in consequence of wet season; mangolds and turnips an excellent crop. *New Ross D.*—The tubers are more or less wet and sodden when cooked. Were it not for the dry sandy nature of the soil in this district, along with careful tillage, the crop would be far worse than it is. It is unnecessary to say that the heavy rains in the early part of the season, followed by a visitation of fungus, was the cause of the partial failure of the crop. All the other crops are well up

PROVINCE OF
LEINSTER.

to the average of former years, and no special injury was caused by the ravages of insects. *Finghlon D.*—The potato crop this year is about one-half that of last year in this district, and is of inferior quality. The crop has not been much affected by disease. The blight, which set in early in July, is the cause of the small crop. *Wegford D.*—I regret I have not information which would enable me to give a useful report on insects and fungi injurious to crops. I have to acknowledge receipt of the very interesting "Special Report" on insects, fungi and weeds injurious to farm crops. If generally known and the advice given acted on, it should be of great use to the farming class, as a general rule they appear to pay no attention whatever to clearing their lands of weeds.

Wicklow County. Arklow D.—The cause of the bad yield is attributed to the want of heat in June and the wet weather in subsequent months. *Bray*

PROVINCE OF MUNSTER.

PROVINCE OF
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CLARE COUNTY. Ballyvaughan D.—I am quite unable to give the report called for as to fungi or insects, and I have no means of getting information. The principal cause of the failure of the potato crop were the very wet weather and the fact that the produce from the same seed has been employed too often. *Ennis D.*—There is a class of potatoes which, though very little sown, yet, where sown, seems to have suffered less than other kinds. I mean the "Leather Cocks." Most of this district is of light dry soil, and will account for the percentage being fairly good; in some parts the potatoes are excellent; in boggy, mountainous land the crop is the reverse. It is a matter of notoriety that excessive rain at the time when the tubers ought to be swelling caused the failure in the potato crop. At the time of ripening some fine weather just saved the oat crop, &c., of which no great quantity is sown. A fine autumn gave the farmers ample opportunity of sowing and carrying excellent crops of hay. The root crops are distinctly good, the mountainous land being beneficial to them. *Shanemois D.*—The general potato crop sown in this district was the champion, which seems to be run out, as the yield was bad and the quality very inferior. The Scotch Down did best and kept best, and is altogether the best food. I, in a great measure, attribute the disease and bad yield of the potato crop to sheep manures of an inferior quality, bad drainage, and worse tillage. The inattention to weeding leaves ample covering and encouragement to breed the various kinds of insects injurious to the crop, and prevents the free air from nourishing and strengthening the plant. In this district such a thing as weeding is almost unknown. *Killalee D.*—I. The potato crop is extremely varied, both as to quality and yield. Where new seed was sown early, the quality is excellent and the return average. On the other hand, wherever the crop was sown late, the return is much below the average in quantity, and the quality ranges from indifferent to bad, according to the nature and situation of the land. In many mountainous localities, where mists prevailed even when rain was not falling, the return is practically nil. On the whole, the yield of sound potatoes is only about half the crop, and the quality of these is, as a general rule, much inferior to the crops of former years, the extreme and constant wet having rendered the tubers soft, weak, and scabby. II. Hay was an abundant crop, and up to the average in quality; but much difficulty was experienced in sowing any but early ryegrass. III. Cereals (chiefly oats) were never better, as a rule, but they too suffered much in sowing. IV. Green crops are good as a whole. I cannot trace

D.—The crops in general in this district have been good. The potatoes a fair crop, but a small proportion diseased, owing to a continuance of wet weather, just when fine, dry, warm weather was required to ripen them. No observations to make regarding insects, fungi, &c. *Dundarlin D.*—The exceptionally bad yield of the potato crop in this district this year is attributable to the wet season, all other crops are as good as they have been for years past. *Wicklow D.*—The general opinion of the farmers is that the diseased percentage of the crop was caused entirely by the very wet season, and want of new seed. Where new seed was used it was found that there was no disease. Some farmers consider that the description of manure used had something to do in producing disease on certain farms, where, for instance, heavy wet manure was put on the land. It is not considered that insects or fungi injured crops in this part of the country.

any special injury from insects or fungi. *Kilrush D.*—As regards the potato crop, which is undoubtedly a poor one this year, the percentage of diseased potatoes is small, but the potatoes which are sound are not good; they are soft and scabby. It seems to me that the growth of the potatoes stopped and they never matured properly; they are small in size as well as deficient in yield. The deficiency in quantity was not so great as was anticipated. I estimate the average at sixty per cent. of the usual crop. Some farmers anticipate that the potatoes will not keep, and only time can prove that question. The earlier potatoes were a very good crop, being mostly ready for digging when the blight came on. In some places imported seed has produced no better crop than the champions grown from old seed, in old land; but in almost all cases new potato ground has done better than old. *Stambridge D.*—The various crops in this district are fully up to the average of past years, except the potato, which is very little more than one-third an average crop. I attribute the failure of the potato crop this year to the cold wet summer which we have had, combined with the fact that the kinds of potatoes sown are too long in use in the district. *Tulla D.*—The bad wet weather coming before the potato crop was matured is the cause of the bad yield in that crop, which in many portions of the district has been very late in being sown, especially in the mountainous and poorer lands in the district. So far as can be ascertained, the disease, this year, has not been attributed to noxious insects or fungi. The yield of the several other crops has been a fair average, though a good deal of heavy oat crops have been injured by getting lodged from the heavy rains. The small percentage in the foundation of diseased potatoes is accounted for by their being dug earlier in the year for use. This description is only sown in small quantities.

COKE COUNTY, E.R. Ballymooly D.—The potato crop in portion of this district was a fair average one, while in other parts it was not more than a third; as a rule those which were sown early in warm sandy soils escaped the effects of the blight to a great extent, the tubers being nearly matured; while those sown late in cold clayey soils were not sufficiently advanced before the wet came on. The only insect which has, so far as is known, done any injury to the potato crop, is the wire worm. The farmers here do not appear to watch with any interest the injury caused to their crops by insects, &c., and are not able to give any information of value on the subject. But if they each had a copy of your valuable book they might awaken to the importance of the subject. *Charleville*

D.—The failure of the tuber crop is due to the wet cold season which prevented the potatoes maturing before the blight came on them. The blight appeared earlier than usual by several weeks. *Cork, North, D.*—I attribute the bad yield of the potato crop to the very unfavourable weather in the early part of the season. *Cork, South, D.*—The potato crop in this district shows a fair average—(1.) The land is dry and well tilled. (2.) A good many market gardeners reside in the district and they had them dug out for the market before the disease set in. *Ferney, D.*—The bad yield of potatoes was due to the very wet weather at a time when the greater part of the crop was most liable to injury from that cause, and to the greater part of the crop having been sown late, and to its having been mainly sown in "beds," rather than in drills. Potatoes sown in March and those sown in drills sown last. Potatoes grown from seed imported direct from Scotland and not got from local seedsmen (as imported seed) did well. The defective yield of grain crops was due to the wet weather preventing the ear filling properly, so that, when ground, the grain gives an unusually low return of meal, &c. There was no special injury to crops from insects or fungi. Turnips were in some cases slightly injured by wire-worm, and potatoes were injured by fungi, but I think rather less than usual. *Keshurst, D.*—I attribute the potato failure in this district to the excessive rainfall during the past summer. Up to the middle of July the crop was very promising, but the continuous rain caused the blight. *Kinsale, D.*—I consider the bad yield of the potato crop this year is entirely due to the excessive fall of rain in the early part of the season, and also to the loss in getting in the seed. Wherever the crop was sown anyway early there is a fair and average crop. I also consider the seed planted should be changed oftener than it is. *Malins, D.*—I do not think that there is any reason to believe that insects, fungi, &c., have had any influence on the crop but that the bad weather had. *Middleton, D.*—I cannot say that any crop in this district has during past season suffered in any way from the effects of ravages of various insects, &c. *Mitchelstown, D.*—But for the failure of the potato crop the harvest this year would have been an abundant one. The yield of all green crops has been particularly good, as the wet season which told so much against the potato has been in their favour; the wet summer contributing to their growth and the fairly good harvest season enabling them to come to maturity. Flounders appear to have done better than charrs, but this is because the former were dug out early. The charrs seem to have been too long in use and now seed seems now necessary. Those farmers who put in their seed early have had in limestone land fair crops, but the blight did great harm to crops set late and in soft boggy land. It is not considered that insects did any harm to the crop—the failure being attributed to the blight entirely. *Newmarket, D.*—I find that in a few cases where the charrs were planted in March the yield has been a fair average. This district being high and damp the farmers do not plant early. I have heard no complaints as to injury by insects. This may be accounted for by the use of lime in this part of the country, in addition to manure. *Quemmott, D.*—As far as I have been able to ascertain from inquiry and observation the crops of this district, with exception of the potato, are good; the corn and green crops and hay, I believe, exceed the average yield. I have heard in some places that the oat crop received damage by being lodged. The hay crop is large, but in quality it has suffered from excessive rain and the low temperature of the summer, and it was considerably damaged by rain while being saved. I have read the Special Report on "insects, fungi, and weeds injurious to crops." The farmers here inevitably say that their crops have not been damaged by insects, or fungi, and I believe no special damage has been caused by them, except the potato blight, which

appears to be a fungus. The turnips and mangolds appear to have sustained exceptionally little damage this year from attacks of insects. I think the general causes of the inferior potato crops this year, are firstly that there was little heat in early part of year, which retarded the growth of the tubers, and then the blight came early and stopped the growth of the tubers even where it did not actually reach the tubers. I find in many instances that after the blight attacked and withered the potato stalk, the farmers let the weeds grow, and consequently owing to the wetness of the season a luxuriant crop of weeds was the result, which must have caused considerable damage. The potato crop varies very much in different parts of this district, and in the more inland portion it is nearly an average crop, and of good quality, and owing to the high prices obtainable its value is, I believe, above the average. In the localities of Monkstown, Passage West and Crosshaven, the yield appears to be 50 per cent. under the average, and the tubers of inferior quality generally. Some good farmers have good crops in these localities. *Toughall, D.*—The cause of the bad crop of potatoes this year is due to the blight which fell upon them unusually early, and also the wet season which rendered the crop very bad near the sea coast and in mountainous districts.

Cork County, W.R. Bandon, D.—The cause of the bad potato crop here is believed to be in consequence of the wet season, and the blight attacking the stalks so early in the season. *Bantry, D.*—The good yield of scounders (which are not a good keeping variety) is due to the fact that being an early potato, the crop was dug out before the blight began to affect the quality. Practically, the entire potato crop in this locality consists of charrs. As regards injury to the crops from insects or fungi, the enumerator at Kilmahane reports that wheat has suffered to the amount of one-fourth from insects and fungi; the enumerator at Connor reports that fungi have in many cases caused the partial failure of mangold wared and turnips, and the enumerator at Keshill reports similar loss from fungi. The failure of the potato crop this year may be attributed to the effects of excessive rain. *Castletown, D.*—The bad yield this year of the various crops in this district has been due entirely to the bad weather that has prevailed during the summer and autumn. *Clewelly, D.*—The partial failure of the potato crop in this district is attributed to the fogs during the months of June and July. The deterioration in grain crops is attributable to the same cause and the wetness of the summer months. This moisture was an advantage to the root crops, which were good. The farmers do not attribute the failure of the crops to insects, fungi, &c., of which they appear to have no knowledge. As a rule, the farmers are very neglectful of the growth of weeds which they allow to overrun their farms—particularly the potato fields. *Dunmore, D.*—I cannot at present give an opinion as to the probable effect on the potato crop by the ravages of any particular insect, but I have myself personally inspected some of the diseased potatoes, and I perceived that in most cases there was no smell from them as if they had been rotten, they had not at all the same smell as the diseased potato of 1880, and I believe that the blight fell on them in a different way this year than in other years, and it may not be at all unlikely that the great quantity of rain which fell in the months of June, July, and August, may have in certain soils been favourable to the growth of a certain insect which found its way to the potato. *Maroon, D.*—The potatoes are small and generally up to the present season. The people complain that the tubers never came to proper maturity, this may be attributed to the wet season which during the early growth of the potato, and the fact that the blight set in so early, causing the stalks to decay. The weeds then

fourished and the people, thinking that the crop was utterly lost (from the outcry made by some persons), made no effort to clear them away. I find that light, high, sandy soil, where the crops were put in early and well manured and limed, has given the best yield, but in wet heavy soil or higher mountain farms, even though limed, the crop did not do so well as in the former case. *Middlesex D.*—In my opinion the failure—partial—of the potato is due to the bad season and to the fact of the seed not being changed. *Shildesboro D.*—With the exception of the potato crop, the crops in this district have been very fair, but are slightly below the average in most cases. As regards the potatoes they have now nearly all been dug, and the result has been about one-third of the usual crop, of these little more than one-half were sound. The failure of the crop is generally attributed in the first instance to late planting, and secondly to the unusually early appearance of the blight which set in before the growth was strong enough to resist it. The blight itself is believed here to be greatly due to the heavy sea fogs which were very prevalent in the early part of the season, and the wet weather and want of heat prevented subsequent growth. Inferior seed was also one of the causes of the failure, combined in many instances with a worn-out soil. *Champions* and *founders* are the principal descriptions grown. The other kinds are only grown in small quantities. No special injury has been caused by insects or fungi.

KEESLEY COUNTY. *Calverton D.*—In my opinion the failure of the potato crop this year may chiefly be attributed to the very wet season. I think it would be a great improvement if the farmers could be induced to import fresh seed every second or third year, and till fresh lands in place of tilling the same ground for several years after each other. *Castlestead D.*—The potato crop is a very bad one in this district, and this applies to all varieties sown; of course, the chief cause for this has been the unusually wet season. I am not in a position to enter into particulars regarding the injury done by insects, fungi, &c., but I can safely say, that I often wonder how potatoes grow at all here owing to the way they are treated. They are usually planted in the worst kind of land, boggy and swampy, badly manured, badly attended to during growth, and seldom or never weeded. The most hopeless state of ignorance prevails as to the cultivation of potatoes. *Dingle D.*—The loss in the potato crop consisted more of wet swampy potatoes than of those actually diseased. Those diseased suffered from the usual fungus, no others are noticeable. *Kewness D.*—The bad yield of the potato crop is due to the blight having set in early owing to the constant wet weather. The hay is a good crop, but in some instances badly sown. The oat crop, very little of which is sown by the farmers in this district, is fair. Turnips are an average crop and doing fairly well. No complaints have been made of any injury done to the various crops in this district by noxious insects. *Kilbarney D.*—As far as I can ascertain insects have done no harm to crops in this district. As regards weeds, I believe that a certain amount of injury has been done by them to crops in this district, as the people are not at all careful to weed their land, and the crops become choked up with weeds. Of course the principal cause of the failure of the potato crop was the very wet season. *Kilcorrin D.*—The bad yield this year was occasioned by the wet season which brought on the blight early. The early sowing yielded a good crop, but the late sowing, say in April and May, yielded a bad crop. The early sowing had a good growth made before the blight made its attack. The potato crop did not suffer from worms, fungi, or any other cause in this district, but solely from the cause mentioned. *Lisnabry D.*—The bad yield of crops in this district may be attributed to the wetness of the season, and in the case of potatoes, to the

wetness of the season, not changing the seed more frequently, and not clearing the land of decaying potato stalks and weeds. *Trillick D.*—The bad yield in this district may be attributed to late planting, wet spring, and blight setting in before tubers had matured. The amount of weeds permitted to exist in the potato crop in this district is extremely detrimental, excluding light and air and retaining moisture. Noxious insects and fungi are not believed to have had much effect upon the bad yield this year, and certainly nothing comparatively with the cause as above stated.

LINCOLN COUNTY. *Abbeystead D.*—The principal cause of the failure was the early visitation of the blight before the potatoes could come to maturity, the natural wet description of the land in this district and the continual rainy weather during the season. *Champions* are the only description of potatoes principally grown, all other kinds are only grown in isolated small patches and are dug out early, which accounts for the high percentage of produce, with the exception of white rocks which have done very badly. *Adams D.*—The potato crop has now been dug out in this district, and notwithstanding the bad year generally for this crop, in this district it has been quite up to the average or at least very nearly so. I chiefly attribute this to the fact that the farmers of this district are as a rule good careful tillers, and are better off as a rule than in other districts. No special injury was noted to crops from insects or the growth of fungi. *Bray D.*—There is not much tillage in this district. The land in general is rich and the greater portion is in grass. The oats and wheat were good crops but suffered somewhat by heavy rain. Turnips and mangolds were good crops. Potatoes yielded badly. In general they were planted late, the wet season affected them prejudicially, there was an absence of warm ripening weather, and the crop was much overgrown with weeds. When disease set in the potatoes were not fully matured to resist the effects of the disease and hence large quantities became injured. *Flounders* are a sort that come in early and were largely used before they could be affected. I believe some of the poor people use small potatoes as seed, which I believe is not a good thing to do. I cannot learn that injury was done by insects, but I think it is to be regretted that the people do not weed their potato crop better than they do. There is a large quantity of hay in the district, some of it not in good condition from the heavy rain. *Kilbarney D.*—I received a copy of your Special Report on insects, fungi, and weeds, which, if generally known and acted on by the farmers, would prove a great benefit to them. I cannot really state the amount of damage done by these pests, but it certainly is very considerable. *Monaghan D.*—With the exception of the potato crop all crops have turned out favourably this season. Hay and oats were fair average crops, and have on the whole been well sown. The yield of turnips and other green crops is above average. Potatoes were a smaller crop than for some years previously. In the mountain parts and wet boggy land an average of more than one-fourth were thick and unfit for use. Potatoes set late in the season were soft and worthless, but the failure of the crop is not nearly so general as it is represented. The crops in this district have not been injured by insects so, to any appreciable extent. *Limerick D.*—The *champions*, *Scotch downs*, and *founders* are the principal potato crop grown in this district this year, the bad yield of which is due to the wet season and the blight coming earlier, and before the crop was sufficiently grown to resist the disease to any great extent. I find only one man in the district grew *leader coats*. This crop appears to have turned out fairly well. The *Scotch downs* is a hardy potato, and not so liable to disease as *champions* or *founders*. I cannot find that any special injury has been done by

insects or fungi to the crops during the past season. *New Pallas D.*—Dairy business is the chief industry in this district. The crops grown here—oats, potatoes, and turnips, are cultivated to a limited extent only. Oats are up to the average in quantity, but the quality, owing to the wetness of the season, is inferior to that of other years. Potatoes have suffered from the blight, and such as have escaped are below the average in size and quality because of excessive moisture and the absence of heat. Turnips are above the average, as is also hay, but the latter has suffered in quality from the constant rain. *Stathole D.*—The bad yield of the various crops in this district may be attributed to the constant wet weather during the summer months, and also in a lesser extent to late planting. There has been no injury to crops by insects or fungi during the past season.

TIPPERARY COUNTY, N.R. Berrishane D.—With the exception of potatoes, all the crops in this district were good. The bad yield in the potato crop was caused by the blight setting in so early this year. No special injury has been done to crops by insects. *Nenagh D.*—All farmers about here agree in attributing the partial failure of the potato crop to the heavy rains of July and August, and the setting in of the blight before the tubers had done growing. Some also attribute it partially to weak seed. No crops suffered this year from insects, or fungi, or weeds. Turnips, which in dry seasons suffer from the fly, escaped this year owing to the rains. *Newport D.*—The bad yield of the potato crop in this district is due to the very wet season. I have heard no complaints of injury done by insects or fungi. *Enniscorthy D.*—The bad year in this locality is attributed to the wet season preceded by frost, and the fact that the present champion seed is considered worn out. No reports have been received with reference to insects and fungi from outstations. I need hardly add that there are plenty of weeds injurious to crops. *Templemore D.*—From inquiry made and observation, I attribute the bad yield of the potato crop to sowing the same seed year after year in the same soil; and the disease called blight set in early this year in consequence of the wet season. I consider the yield of the other various crops a good average, the season being favorable for them. *Thurles D.*—So far as I can learn there have been no ravages from noxious insects or fungi in this district. The wet season caused a large crop of weeds, and the moisture caused the increase in the blight.

TIPPERARY COUNTY, S.R. Cahir D.—The cause of the bad yield in the potato crop is attributed to the early blight, and wet summer. All other crops were good, and no injury was caused from insects or fungi during the past season. *Curriken-Suir D.*—It is believed that the principal cause of the potato blight was the wet year. The crop of flounders showed a better percentage of several potatoes, chiefly owing to the fact that it was sown earlier. At this period it is difficult to trace what injury may have been done

by insects or fungi. *Castled B.*—The large percentage of champions lost by disease was owing to continuous rain during July and August. The flounders, being an early crop, did not suffer so much. *Clonard D.*—Owing to the moist growing weather, with occasional gleams of sunshine, experienced early in the season, there was in the potato crop a most extraordinary growth of haulm, and little development of tuber, which in the majority of instances matured badly owing to the continued rain, and want of ripening weather, hence the crop generally was deficient in quantity and quality. In many places, however, I noticed that the luxuriant growth of weeds was allowed to remain on the drills, and these effectively prevented the crop getting any sun or air, and this negligence on the part of the farmers further militated against the crop. *Dundrum D.*—The potato crop was injured by the very wet summer. It is about two-thirds an average crop. In the low lands and boggy mountainous parts of the district the crop was half average, or under the other parts, good in some places. Hay well above average, most of it well saved. Corn excellent, well above average. Bar heavy grain, good quality. Stalks over six feet in many places. Turnips large and sound. All crops excellent, but potatoes. The wet followed by autumn sun saved the corn. From my present inquiries and observation, I am unable to state any special injuries resulting from insects or fungi. I shall examine the contents of the book received, and after further inquiry submit report. *Killeshale D.*—The only cause I know of for the partial failure of the potato crop is the blight, which has rendered about one-third, and more in some parts, of the crop unfit for food. Recent heavy rain also had an injurious effect on the potatoes. *Pygerrory D.*—Champions form the principal crop of potatoes planted. White rocks and flounders have not been grown generally, but in small patches near dwelling houses. This is not an agricultural country—it is more adapted for pasture. The potato crop has, in part, failed here in consequence of the damp summer, and the moist nature of the land.

WATERFORD COUNTY. Carpcowin D.—The bad yield of potatoes is attributable solely to the cold wet season. The yield of all other crops is good, as there was not too much rain—corn, though good, has not as much weight as other years, owing to the cold. *Dungarven D.*—The bad yield of the potato crop is due to the blight, and an unusually wet summer. There was a very fair return of all other crops. There was some slight injury done to the oat crop by the wire worm, which appears to be the only damage done by insects in this district. *Portlaoine D.*—The bad yield of the late potatoes was due to the wetness of the summer and autumn. Those kinds which were planted and dug early were a better crop, as the spring and early summer were more favorable. *Waterford D.*—Owing to the wet weather at the end of summer, there has been a great amount of disease this season. The flounders were all dug out early, hence the smaller percentage of loss.

PROVINCE OF ULSTER.

ANTRIM COUNTY. Antrim D.—There has been a very fair yield of crops except potatoes in this district, and there was no special injury caused by insects or fungi. *Ballymena D.*—So far as this district is concerned, the potato crop may be considered a fair yield, but owing to continuous wet weather, fully one-third of the crop has suffered from disease, and this has especially been the case where the crop occupied low-lying ground. Hay was an abundant crop, but considerable difficulty was experienced in saving it, and much of it has been injured owing to rain. Oats

were a very good crop, with a very fair yield of straw. It would have been much better, but like every other crop, suffered much for want of warm ripening weather, and about the time it was being cut, the weather cleared up for a short time only to break again as the corn was in stocks. Fortunately this crop suffered little from high winds. Turnips and other root crops are fully up to the average. Flax was an excellent crop, and suffered little from the wet weather, besides the yield being much over the average. Little wheat is sown in this district. I have not

PROVINCE OF
MICHIGAN.

PROVINCE OF
ULSTER.

beard of any harm done by insects or fungi during the past season. In common with many parts of Ireland, sufficient trouble is not taken to eradicate weeds. *Ballymoney D.*—It would appear that on an average more than one-half of the crop is sound. The "Flounders" were dug out early, which is the cause of their having suffered so little. The failure of the crop generally is due here to the wet season, and also largely to the want of fresh seed. I do not think that insects or fungi have caused any appreciable damage. *Belfast, North, D.*—I have endeavored to ascertain from reliable sources the probable cause why the produce of crops this season is less than last year. The farmers in this district attribute the failure to a continuously wet and unusually cold summer, and the early appearance of blight; and believe that no injury was traceable either to noxious insects or fungi. *Belfast, South, D.*—The yield in this district is good, above the average, as a moist season is best suited to the soil. No special injury from insects or fungi. *Carrieffergus D.*—There is an abundant harvest of corn and hay in this district—which extends forty-five miles along the coast, from Belfast to Carron Tower, beyond Glencarm—and about ten miles inland to Ballyclare, &c. Green crops (turnips and mangolds) promise well. As regards potatoes, the early sorts, crofties and bladders, suffered from the cold and damp of spring and summer, and from the use of old seed. The dry weather in autumn checked the progress of fungoid evils, and saved the general crop, which is an average in quantity and quality. The more enlightened farmers have for some years been burning the decayed potato stalks and weeds with advantage, and they find that money spent in drainage and change of seed pays well. Farmers do not fully appreciate their friends, the lords of the air, which battle the destructive insects. Among the most useful air scavengers is the swallow—owing to the cold spring, his visit was limited in time and numbers—the latter was very apparent, particularly at his call—call sounds on telegraph wires, &c., before leaving for winter quarters. *Lisburn D.*—The only information I can afford regarding the disease to the various kinds of potatoes is attributable to the exceedingly bad weather which the county experienced during the spring and summer of this year. I have not heard of any particular complaints regarding insects or fungi. The other crops were all satisfactory.

ARMAGH COUNTY. *Armagh D.*—The yield of the various kinds of potatoes was about the same; the losses from disease were almost altogether confined to the southern portion of this district. The blight was due to the wet season and heavy character of the soil. I have received your book on the subject of insects, fungi, and weeds. There has been no injury to crops from fungi or weeds. In one portion of the district about five per cent. of the turnip crop was injured by the blue fly, and in the same locality about a similar percentage of the cabbage crop was damaged by the caterpillar. In another part of this district the oat crop was slightly injured by an insect locally known as the grub. *Lurgan D.*—The cause of the good yield of potatoes in this locality may be attributed to the frequent change of seed, a considerable quantity being imported from Scotland. *Neavy D.*—In this district of the county Armagh the yield (average) of all kinds of potatoes was fair this season, but so much rain in the autumn caused much more of the potatoes to decay than otherwise would have been the case had the season been dry up to digging. In some cases heavy manuring caused early potatoes to decay to a heavy extent, but in that respect there seems little difference from former seasons. *Portadown D.*—The reason that the potatoes in this district have been so good is, the land is generally dry and hilly, and the potatoes are planted early, and, in addition, the people allow no weeds to grow in the drills or ridges. Seed is frequently changed, and the people pay the greatest

attention to them during their growth. At present the best champions in Portadown market are sold from 2s. 6d. to 2s. 4d. per cwt. Glencrums are somewhat dearer. The potatoes are very dry and mealy; I have never seen better. The crop of potatoes has not been so good in this part of the country for many years. We have had a dry season here. Last year we had floods very early in the harvest, but this year the weather has been here delightful.

CAYN COUNTY. *Ballybarnagh D.*—Every crop this season has been reported fair, save the potato, the failure of which is attributed to the wet season, and partly to the early frost which came in spring. The blight was much more serious in its effects where the old native seed was used. On patches where the seed imported from Scotland was planted the crop is good and not much diseased. The hay and oat crop was very heavy, but somewhat damaged in the saving, owing to the rains. Flax was a heavy crop, but fetched low prices. Turnips have not come up to the yield which was expected, but they are fair. *Ballygishuff D.*—Oats a very good crop, but owing to wet weather about one-fourth was more or less damaged. Wheat very little sown in district, any that was was good. Hay plentiful and pretty well saved. Some late meadows were injured by the rain, but not to any great extent. Turf scarce and not well saved, owing to wet weather. Turnips and mangolds good crops everywhere. No insects or weeds interfered with the crops in this district, as far as I can find out. The failure in the potato crop is entirely owing to wet weather and early appearance of the blight this season. Early sown potatoes did very well, but in those sown late the tubers were scarcely formed when the blight set in. *Cavan D.*—The bad yield of the potato crop this year is due to blight, caused by the constant rains. Large quantities of the tuber have been destroyed by worms. This too is attributed to the wetness of the season. So far as can be ascertained, no injury has been done to the crop by insects. *Killybegs D.*—The only crop in my district which was a partial failure, owing to the constant wet weather, was the potato crop. The remainder show a fair average yield. No special injury has been done to crops in my district by insects or fungi. *Swandlinbar D.*—The potato crop in this district has been much below the average, in fact, in parts of the district it may almost be said to be a total failure. The principal causes which have produced this are as follows:—I. Late planting, followed by a wet season. The blight took hold of the stalks of tubers before they were matured. II. A bad system of tillage and sowing; planting in old ground with same seed; generally the smallest potatoes are reserved for seed. III. Insects and weeds. These, however, only to a minor extent. Wheat has been a very fair crop, but is little sown here. Oats have been fully up to average. Hay has been a fair crop. Turnips a very fair crop. These may be said to be the only crops grown in the district.

DONNEL COUNTY. *Ballykeshon D.*—The partial failure of the potato crop is due to the wet season experienced including blight. Hay crop is abundant, but badly saved. The wet weather also affected grain crops and prevented them being over the average, though there was a splendid promise at one time. All green crops are very good and fair average. The farmers do not complain of ravages by insects or fungi. *Bun-crow D.*—There has been no special injury to the crops in this district from insects, fungi, or weeds. The bad yield of the potato crop is attributed to the appearance of frost shortly after the potatoes were planted, which had the effect of checking the growth of the tubers. The continued wet weather is looked upon as having been the cause of the disease. *Don-fengashy D.*—I think it should be taken into consideration that in nearly all cases the tubers in size

are much below the average. *Dungannon D.*—The only crops grown to any extent are potatoes, oats, rye, and turnips. With regard to the potato crop, the cause of the bad yield this year is due to the disease known as "Potato blight," while I cannot give any opinion as to the direct cause of this disease, I believe it was favoured in its ravages in this district this year by want of change of seed. The crop not having been planted early enough. The soil in which it was planted being in most cases too long under tillage, and lastly, exposure to the sun. The oat crop seems to be good or bad according to the season and the ground in which grown. Some remarks apply to rye and turnips as to oats. With regard to the ravages of insects, fungi, and weeds, I think that the people are not sufficiently educated to know much about the first two named, but there is no doubt that weeds have in this locality been a great cause of injury to the potato crop. *Letterkenny D.*—The principal cause to which the failure of the potato crop is to be attributed in this district is the too frequent cropping of the same kind of seed, without changing, which so weakens it as to cause the crop to be in course of these deficient both in quantity and quality. To the foregoing may be added a wet, and therefore, unfavourable season, when the seed for reason already given is an easy victim to blight. The other crops grown in the district are fairly good crops, and as such require no remarks at present. *Meville D.*—I beg to state the early crop of potatoes were somewhat affected by the blight, but to no great extent in comparison with other districts. The continued wet weather was in a great measure the cause of the bad yield in this district. All through the district the ground is either a high mountainous or very low-lying wet region, the poor soil in the mountainous portion, and the wet in low-lying, tended to reduce the yield. *Raphoe D.*—I beg to observe that the principal crops in this district are hay, oats, flax, potatoes, and turnips; all these principal crops are good in this neighbourhood. There was considerable difficulty in getting the oat crop saved owing to the wet season. Potatoes are a fair good crop, except in some part of the mountain lands where the sowing was late they did not come to maturity. Turnips appear an excellent crop. Cabbage and other green crops are also good. Farming is generally carefully attended to in this district, and the crops have suffered in no exceptional way except from the wet season. *Rathfriland D.*—The bad yield of the potatoes in the present year is, of course, mainly attributable to the blight which set in early; also, it is said, to the frequent continuation of old seed, instead of changing it occasionally. The constant rains of the autumn were also very unfavourable after the blight had set in. I have not heard of any ravages by insects in this locality. Likely too near sea-coast for such.

Down County. Donaghpatrick D.—I beg to inform you that the potato crop in this district is nearly up to usual average. The cause of any failure is owing to the blight. Kempt, Scotch downs and founders, being early sown, were scarcely affected. Generals and magnums were not affected. With regard to champions—in light land, winter manured, the crop was light and very slightly diseased. In heavy land, lightly manured, the crop was beyond the average and not much affected; while in some sort of land, well manured, the crop was very large but badly affected. *Newtownards D.*—In general, the potato crop is an average one. The blight existing is attributed to a wet season, use of small seed, not sufficiently frequently changed, and use of nature not sufficiently decomposed. Champions are regarded as "cut out," magnum bonums, a comparatively new potato, give very good returns. Sherry blues give a very good return. The generals and Brocks raised from seedlings (arise) a few years ago by Mr. James Wilson, steward to General Nugent, of Port-

erry, are looked on with great favour, yielding ten to twelve tons per acre. Grasses—unless planted very early, are delicate, and don't resist disease well. All other crops are excellent. No special loss due to insects or fungi is reported. *Rathfriland D.*—The weather is accountable for the variations in average yield of the various crops—modified in certain cases by special circumstances, such as nature of ground and systems of cultivation. No complaints as to insects have reached me from any quarter.

Fermanagh County. Derrygonnelly D.—This district is mainly a grazing one. The only crops grown, and these in small quantities, are potatoes, turnips, corn and wheat. The three latter crops have been of average excellence, and require no particular comment. The potato crop has been a comparative failure. The causes were, in my opinion, heavy rains in June and July, the potato of planting potatoes for several consecutive years in the same ground, and using the same seed year after year. I am not in a position to offer any observations as to any special injury done to the crops in this district by insects or fungi. *Enniskillen D.*—To some extent Sherry blue potatoes have been injured by insects, and to a less extent "founders" and "white rocks." Champions or other sorts have not, so far as I can find, been injured by insects, and whether the injury reported has been by any special insect has not been ascertained. *Kesh D.*—From information received from various sources, I find, as regards this district, the grain crops, viz., wheat, oats, barley and rye, yield a good supply, as do also turnips, mangolds, and flax. This is attributed to their having been sown in dry weather and the almost constant wet season which ensued benefited, rather than retarded, these different kinds, the country being somewhat hilly. The failure of the potato crop is, on the other hand, owing to the same cause, added to the blight having set in early in July before the stalks had come to maturity. This sort of crop is not sown here until April and even beginning of May, the soil being of a cold heavy nature. *Lisnades D.*—I am not aware that noxious insects had anything to do with the failure of the potato crop.

Londonderry County. Coleraine D.—The yield of all crops in this locality has been good, which is attributed to the season being favourable. However, the wet weather affected the potatoes considerably. *Messenden D.*—The potato crop in this district has been up to a fair average, about one-third of the crop being lost. In this district potatoes are planted early, and the land is exceptionally good throughout the greater part of it. Sherry blues have been marvellously successful, and next to them come founders, Irish whites, white rocks, and magnum bonums. Turnips and mangolds have been a splendid crop this year, and do not appear to have suffered from the ravages of insects or from fungi. Cereals have also been good, but the hay crop was a little short owing to the dry, hard weather in May. On the whole, the year's yield for all crops has been good. *Londonderry D.*—The sole causes of the potatoes being injured or destroyed in this district, are the heavy rains in June and July, and the blight having set in before the tubers had matured. *Maghersfield D.*—The grain crop in this extensive district has been up to, if not above, the average. Flax has been up to average, and in many cases farmers have told me that they very seldom have had so abundant a crop. Green crops are as good as heretofore. Hay was also a good crop this season. The potatoes have done better, than being stored, than the farmers anticipated. A very curious circumstance is that "Sherry," or, as some call them, "Irish Reds," have almost entirely escaped the disease. All round, where fresh seed was used, and in new gravelly land, the potato crop in this

PROVINCE OF
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District is fairly good. However, this district cannot be taken as even an average in comparison with other parts of Ireland—the soil is rich and farmers very careful.

MONAGHAN COUNTY. *Cheshamstead D.*—So far as I have been able to ascertain, the bad yield of potatoes this year is attributed to the blight appearing so early in the season, before the potatoes were sufficiently matured. *Clones D.*—I can assign no cause for the bad yield of the potato crop. *Monaghan D.*—The yield of the potato crop in this district for the present year falls short of the produce of last year, this is the case especially in low-lying lands, where the disease has done most injury, on account of the humidity of the season. Although the wet season was injurious to the potato crop, it was beneficial to other crops, namely, oats, hay and flax, particularly on uplands, where those crops are much above the average. No special injury has been done to crops in this district by insects or fungi.

TYRONE COUNTY. *Anglicanby D.*—In this district there are two widely separated classes of farmers, viz., those on the mountain slopes, where the land is light and the people poor, and in these localities potatoes suffered from late planting, and disease consequent on climatic conditions. In the greater part of the district good land and high farming prevail, and the potato crop resisted the ravages of the disease wonderfully. In the neighbourhood of Colinton the farmers say that the sound potatoes are an average crop. As to cereals and grass, as well as other root crops, the season was favourable, and yield good. Many years ago it was suggested to me that the blackberry nursed the disease from year to year through it did not suffer from it. I have noticed that red spots on the leaves are more prevalent in years of potato disease. Microscopists might investigate these red spots profitably.

As the disease appears equally on freshly-broken old mowdow, where the seeds have been carefully selected, I am inclined to think it is mainly carried in the atmosphere. *Cockitown D.*—The potato crop in this district is on the whole a fair one. Silvery blazes are the best yield. The cause of the failure of the crop is the wet season, and bad land in some districts. *Dungannon D.*—The cereal crops in this district are up to the average of former years. The partial failure of the potato crop is due to the continued wet season combined in many instances with defective drainage and bad cultivation. All the other root crops are up to the average of former years. No damage has been done by insects or fungi in this district during the past season, so far as can be ascertained. *Newtownswarthy D.*—The only cause which I can ascertain accounting for the bad yield of the potato crop in this district is the continuous wet weather. *Crough D.*—1st. The cause attributed to the good yield of oats and turnips this year is the moderate rain and continuous dampness during the summer, which had the effect of keeping the oat crop, &c., growing all the time, and made it grow a heavy good crop on high-lying land, which otherwise would not have been the case. 2nd. The cause attributed to the bad yield of the potato crop was the rain and continuous dampness during the summer, which had the effect of keeping the crop growing to tops at the time the tubers should be maturing, and then the blight commencing on them before the tubers had come to maturity and therefore stopped the growth. *Strabane D.*—Champions are decidedly the best class of potato, the others which show a higher percentage have been grown in much smaller quantities, and on specially prepared ground. The crop as a whole was good in the dry lands, but in low-lying wet land one-third were damaged, the wet season being considered the cause.

PROVINCE OF CONNAUGHT.

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GALWAY COUNTY. *Altaverry D.*—The bad yield of the potato crop is attributed to the excessive moisture of last summer. The yield would have been far worse were it not that the soil in the greater portion of this district is very favourable to the growth of potatoes. It is in general a light gravelly soil, resting on limestone. *Ballinasloe D.*—The general bad yield of the various crops in this district may be attributed, especially in the case of the potato crop, to the dampness of the past season, and to the fact of the blight having made its appearance three or four weeks earlier than in former seasons and before the potato crop had time to come to maturity. It is estimated to be about one-half what a favourable year would yield of potatoes. Turnips are light in yield, which is also attributed to the dampness. The farmers are satisfied with the yield of hay and oats, and say it is as good if not better than last year. There has been very little, if any, injury done to crops in this district from insects or fungi during the past season. *Cillilea D.*—The principal cause of the failure of the potato crop in this district is owing to late sowing, early blight this year, continuous wet, and failing to change the seed. *Clonsilla D.*—The cause of the compensative failure of the potato crop in this district this year, is due, primarily, to the very wet season. I have heard of no complaints as to the action of noxious insects, &c., on the crop, but, doubtless they too had something to do with the failure. *Dunmore D.*—As regards the "Railways," they are a very late crop, and they escaped the blight, but they are not fit for human food, being little removed from the turnip, and are

only used here for cattle. *Galway D.*—It may now be safely stated that nearly one-half the potato crop will be unfit for food in this district. Ravages from fungi, or insects, &c., have not been observed in this district during the past season. The bad yield of the potato crop may be attributed, generally, to the wet season, late sowing, and early blight. The want of change of seed has also contributed to the cause of the bad yield. Where the crop has been good it may be attributed to good, dry uplands, and early sowing. All grain crops are up to the average of former years. Wheat and oats have suffered to some extent from the continual wet weather, and the yield, in some instances, is not up to the average. Hay has also suffered slightly from the wet weather. Turnips, mangold warts, and other green crops are up to the average of past years. *Gort D.*—It appears to be the general opinion of farmers in this locality that the peculiarly wet summer and spring has been the cause alike of the good yield in such crops as are good, and of the bad yield in such as are not up to the average. The damage done by noxious insects and fungi appears to have been small about here. *Moyleagh D.*—Fungi were very injurious to the potato crop in this district during the past season. *Loughrea D.*—I believe the bad yield of the potato in this district is chiefly attributable to late sowing, the tubers being unable to come to maturity before being affected with the blight. The undrained state of the land in the mountain districts also materially affects the crops, as by the presence of stagnant water the plants are unable to have a healthy growth. *Parish D.*—With reference to the failure of potato crop

this season, I believe the cause is attributable to the use of the same seed for years in succession. Roundness *D.*—The chief cause to which the bad yield of crops all round may be attributed is the long continued rains of the summer months from which everything suffered more or less. I have not heard any complaints regarding the ravages of noxious insects, &c., this season. *Spindle D.*—The cause of the bad yield in the potato crop this year was due to the late sowing, as well as the continual rain in the summer months, the blight attacking them very early. It is believed, too, that the champions are dying out, having been used now over ten years in the same land. *Turns D.*—The bad yield of potatoes this year may be attributed to the blight having set in so early. Champions being of a soft nature, suffered severely; and this seed is getting worn out. Early potatoes, such as founders and keeps, were nearly ripe before the blight set in, and consequently did not suffer so severely. Green crops, turnips, mangolds, &c., were very good, the moist weather favouring them. Hay was a fair crop, but as wet weather prevailed during the time it was being saved, a considerable portion of it was damaged. Oats very fair, but for the excessive rain it would have been a much heavier crop. *Woodford D.*—With the exception of the potato crop all crops are good in this locality. The hay crop is somewhat lighter than last year, which is probably due to the cold spring and summer. The wet was very favourable to the turnip crop, and the oat crop was also very good. Potatoes in wet boggy soil suffered greatly from frost in May. There is a good deal of the ordinary potato disease, but in some fields the crop is nearly as good as usual. Potatoes set in drills have decidedly come off best. I have heard no complaints as to ravages made by insects, &c.

Larne County. Ballinmore D.—I believe the continual rain is the main cause of the blight. Mr. Lawder, J.P., D.L., informs me that it is also due to not changing the seed often enough. He has imported the Reading Harrow which are doing well. *Corrigan-on-Slane D.*—I consider the bad yield in the potato crop due to the wet season, and the disease setting in so early this year. I believe the potatoes should be set earlier than the months of April and May, and that the people should not set all in low-lying land, and they should frequently change the seed. *Drumshaire D.*—The diminution in the crop this year is due to the incessant rains and the subsequent blight, which set in before the potatoes had arrived at maturity. *Monaghan D.*—The bad yield in the various crops in this district is attributed to the very wet season, and the nature of the soil being wet and boggy. The crop is not put in in time, owing to the farms being too wet for the want of draining. This applies to all kind of crops. This year the crop was late, and a frost in the latter end of May injured the potato crop to a very great extent. I saw, myself, several fields of potatoes that looked well, and promised to be a good crop, all blackened, the leaves all withered, and the stalks lying. This put back the growth considerably, and I have been informed that the disease then setting in before the tubers were matured left the crop with very little indeed. The oat crop is bad, owing to the wet season, and the corn is very inferior, all unsold, and not fit for feeding purposes. I cannot procure any good oats. The hay is a fair crop, but badly saved, from the same cause—the wet season. I have received no reports as to the ravages of noxious insects. The farmers permit weeds of all kinds to grow with the crops which smother and destroy the crop which was most remarkable this year; and when asked the cause, the reply was usually given "The crop was not worth claiming." *Melish D.*—The wet season is chiefly the cause of the bad yield, together with late frost. I hope the "Special Report on Insects, Fungi, and Weeds injurious to Farm Crops," will be

interesting, but I have no observations to offer on the subject.

Mayo County. Ballaghaderreen D.—So far as I can learn the potato crop in this district is far below the average of an ordinary successful year, and no special reason can be attributed for this by local farmers beyond a general statement of the existence of a "blight" in the early part of the year, the ill effects of which were subsequently increased by lack of heat and excessive moisture. Champions are chiefly grown in this district. *Billys D.*—Except potatoes, the general yield of crops in this district has been up to a fair average. The potato crop is considerably below that of former years, owing in a great measure to a severe frost in latter end of June, the unusually cold wet season we have had this year, and the early appearance of the blight which was more severe than for some time past. Bad cultivation and neglect to remove weeds, &c., no doubt added to the unsatisfactory state of things in this respect. Champions are the principal crop grown in this district, the others being only to a small extent. *Billys D.*—The potato crop was injured by the wet weather and the blight, which appeared before the tubers had come to maturity, and consequently caused more damage. The seed used was unfit for the purpose, no fresh seed having been provided, and the smallest potatoes were planted or pieces cut from large ones were used instead. All the more crops very good, as the wet weather suited the dry limestone land in which these crops were principally planted, with the exception of the wheat crop. The wet weather prevented the grain from growing to the usual size. Very little damage was done to any crops by insects, and I cannot name any particular insect that caused any injury. I noticed that the people were very careless in cutting down their crops. I saw many fields of perfectly ripe wheat, oats, &c., remaining uncut for a fortnight or three weeks. Although the weather on several days was fine the work was not done, and storms and rain during the time the corn remained uncut must have done great harm. The wet weather caused a great growth of weeds which injured the potato crop to some extent. *Reahulst D.*—The people of this district attribute the bad yield of potatoes to frost in June, followed by the blight. There was no appearance of insects or fungi during the past season. The other crops yielded a fair average return. *Carbidge D.*—The partial failure of the potato crop only calls for any remark. The yield in other crops is a fair average. There were frosts in May and early in June, which burned the young potato stalks, which put back the growth very much. A good warm harvest would have made up for this, but instead, the season was cold and wet, and the tubers were not nearly matured when the blight set in with great severity. No injury was observed from insects or fungi, but small worms, in the clay, have damaged, in some places, the portion of the crop which is safe. *Charmers D.*—Champions and founders are chiefly grown; tubers not extensively, and white rocks very little. It does not appear that any injury has been caused by insects or fungi, but in many fields weeds are allowed to grow unchecked. In my opinion the chief causes of the poor yield are, pooriness of the soil, susceptibility to disease of worn out seed, and the wet weather bringing on disease when the potatoes were far from maturity. Even those which escaped disease are stunted and small. *Springfield D.*—I believe the failure of the potato crop this year is mainly due to the want of fresh seed, constant wet season, and sowing the same crop so often on the same land. I have heard of no complaints of any insect attacking the crop. *Waters D.*—The only cereals grown in this district—oats, and very small quantities of wheat and rye—yielded an average crop this year. Turnips and mangold wurzel have also yielded a good average, but the potato crop is much below that of

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former years, and about half are unfit for human food. This is attributed to a frost which set in early in June, when the stalks were young and tender; an almost continuous wet season, and the blight having made its appearance before the tubers were fully matured. There was no special injury caused to any of the crops by insects or fungi.

ROSCOMMON COUNTY. *Adelphi D.*—I am of opinion that the potato crop of this district and indeed of the country generally is very much injured each season by the almost unchecked growth of weeds. *Boyle D.*—The only cause for the failure of the potato crop in this district is the blight which set in very early in the season. *Roscommon D.*—Late frosts, when the main crop of potatoes were just over ground, and a wet summer made them a very bad crop. At same time the wet gave good meadows and plenty of straw and brought on green crops. There was very favourable weather for harvesting white crops, which are quite up to average; that same weather however put a stop to growth of green crops which will not be as heavy as expected. *Strathstown D.*—The principal crops grown in this district are hay, oats, turnips, and potatoes—all are average except turnips and potatoes. The turnip was a good crop, the damp season being favourable to it. The potato was a bad crop, owing to the frost in the early part of the year, and the appearance of the blight unusually early in the harvest. In the early part of this year insects did some injury to turnips and the caterpillars to cabbages, but not to such an extent as in previous years.

SARNO COUNTY. *Ballymore D.*—The wheat crop in this district was up to the average of the former years. The oat crop is good in yield and quality, and is also up to the average of the past few years, and in some localities the yield is better this year. This is accounted for by the damp weather in July last, supplying more than sufficient moisture, the ground being then warm, causing an abundant growth. This damp weather, while causing hay and oats to improve, had quite an opposite effect on the potato crop, bringing on the blight before the crop was ripe. On good dry soil, where the seed was sown early, the potato crop is fair, but in low lying and badly tilled land the crop is hardly worth digging. The potato crop was injured in this district by worms,

but this was confined to a very small area, and I believe the presence of these worms may be attributed to the particular kind of soil in the locality. *Collooney D.*—The potato crop has been a partial failure in this district this season, owing partly to May frosts, and partly to the early appearance of the blight, due to wetness of the season. All other crops have been up to average, turnips and mangold being particularly good. There are no complaints of the ravages of insects. *Keshy D.*—All the crops cultivated in this district this year are, generally speaking, a good average crop, except the potato—viz. oats, wheat, barley, rye, turnips, mangolds, hay, &c. In the greater portion of the district the land is good and bordering the sea, hence the wet season had not as injurious effect as in other places. The potato crop too has been good in some parts of the district. The description of potato cultivated is generally "champions" and "flowdens." There are very little of any other kind. I find there are but few complaints as regards insects. I have circulated the "Special report on insects, &c." to the several stations, and doubtless it will do much good. *Sligo D.*—There has been no special injury to crops in my district by insects or fungi during the past season. The falling off in yield of the various crops can be attributed to no cause, save the "early blight" and "wet season." *Tobemore D.*—The early seed appears to have done best. The potato crop was checked in growth by frost in May, after which there was a considerable growth of stalks owing to rain in June and July. A great growth of weeds was also caused, but little development of the tubers until the blight came, hence the poor yield. The ground covered by weeds retained the wet and prevented the ripeness of the tuber, so the heat, so necessary to the potato, was unable to reach it. Generally, the cultivation of the potato crop is very late here; the ground is not sufficiently prepared or cleared of weeds; and the champion is too late in reaching maturity, being thereby open to blight attack later in the season than any other seed. The other crops have been fairly good. Oats, the principal grain crop, suffered a little in bog land from smut. There have been no complaints of insects or fungi, nor have I observed any injury to crops by them myself this year. I have looked through Mr. Matheson's report, and I am of opinion that every farmer should have a copy of it.

APPENDIX.

SILOS AND ENSILAGE.

SILOS AND

The following statements have been received from persons who have made Ensilage in Ireland in 1890.

PROVINCE OF

Name and Residence.	No. of Silos.	No. of Stacks.	Dimensions of Silos—Length, Breadth, Depth.	Materials of Silos.			Whether Drained or not.	Situation: "Partly Below," or "Above" Surface.	Has Ensilage been made without a Silo, and how?
				Walls.	Floor.	Roof.			
CARLOW COUNTY.									
P. J. Norton, Esq., D., Droghda, Kesh, Ennis, Kesh.	1	1	—	—	—	—	—	—	Two stacks were made, one 10 feet by 10 feet and 10 feet deep, with straw over grass, which turned out very good silage.
Walter Kinnear, Esq., D., Kesh, Ennis, Droghda, Kesh.	1	1	—	—	—	—	—	—	—
Arthur Flanagan, Esq., D., Kesh, Ennis, Droghda, Kesh.	1	1	—	—	—	—	—	—	With straw. According to grass was cut, made into a rug or rug by 10 feet by 10 feet, with straw over grass, which turned out very good silage. When all was cut, the rug was 10 feet by 10 feet and 10 feet deep.
Mr. Thomas M'Gee, Esq., Kesh, Ennis, Droghda, Kesh.	1	1	—	—	—	—	—	—	Stacks—(1) 10 feet by 10 feet; 10 feet deep. (2) 10 feet by 10 feet; 10 feet deep.
Mr. Thomas P. Kelly, Esq., Kesh, Ennis, Droghda, Kesh.	1	1	—	—	—	—	—	—	Yes. For the last three or four years I have made much of coarse grass or rough pasture, mixed with straw, and silage, about 10 feet of clay and so and changed with straw.
DUBLIN COUNTY.									
Thomas Carroll, Esq., Kesh, Ennis, Droghda, Kesh.	1	1	10 feet by 10 feet; 10 feet deep.	Concrete.	Concrete.	Wood, covered with paper.	Not.	Partly below surface.	No.
James M. Kelly, Esq., Kesh, Ennis, Droghda, Kesh.	1	1	10 feet by 10 feet; 10 feet deep.	—	—	—	Not drained.	Above surface.	Yes. Fresh grass, stacked on straw, grown 4. Well drained, same as hay is making a rug. Covered with 10 inches of straw.
John Leonard, Esq., Kesh, Ennis, Droghda, Kesh.	1	1	10 feet by 10 feet; 10 feet deep.	Strick.	Concrete.	Strick.	Drained.	Above surface.	Yes. By cutting the grass into fresh and with straw, then in as much as possible early in the day, and laid the straw in two days, and cover all over with 3 feet of straw, no other weight on it.

ENSILAGE.

The names and addresses have been inserted in those cases where permission has been given to include them.

LEINSTER.

Number of cows or sheep in silage or ensilage stack.	Materials put in silo or stack.	Temperature.		Quantity of silage (if the given to cattle per acre).	The whole description of cattle; if the breeds state up, and how much.	Remarks.
		Greatest heat.	Average heat for 20 or 30 days.			
One stack 10 days 1873, 1 days.	Spent grass in cow grass only in the silage.	120 degrees.	110 degrees.	No account as small kept.	Above 90 head were fed on silage 120 a long time, and all did well on it.	I never had so little waste on the outside, not more than a higher grange, less waste in the stack made from 1700 on 1st of July. The cow was first high. I managed the stacks with about 30 loads of ferment grass, in the cow, round on surface and ploughed in, and stack outside 1000 away 2 harrows, which gave a very heavy crop of food for sheep and cattle, and was not contained until the middle of January— the 1000 loaded variety. The same land is now sown with wheat. The cow was sown with old meadow grass. The second stack was prepared from a prepared meadow, a cow and weighed with 1000 1000 1000 1000 1000 1000 1000 1000 and finished on the 10th. The second was kept in the temper- ture. The day after the stack was covered and weighed put on the meadow was 1100. Both stacks were sweet. The cow made from 1700 and grass was loaded with prepared stack, on the 10th and finished it. When the cow was well brought there will be very little waste in silage stacks.
—	—	—	—	—	—	The only ensilage I made last year was a small stack of prickly cudweed as an experiment. It was a total failure, the stacks of the meadow becoming, when dried, so hard that nothing could eat them and the leaves were little better. As material for ensilage the prickly cudweed is quite useless.
From 1873 to 1874.	Big meadow.	—	—	About 8 stone.	Told every and 1 year old bul- locks.	A field of it stands across put into one stack, after kept on by poles being laid as close as possible to edge of stack and a wire laid round each end of pole, which were across the stack. I made this as last season when great trouble trying to keep the cow on. I intend having this every year.
1875.	Old pasture grass.	Not taken.	Not taken.	Not weighed.	Blue cows, 2 year old bul- locks, and your cows.	All the cattle have done well on it; about 100 two-year-olds altogether fed on it with a full of grass, and are in the com- mon.
1876.	Course grass.	Never taken.	Never taken.	Not measured.	Springing cows, and lamb, ewes, and lambs.	I have made ensilage for several years. I have found all kinds of stock eat it. It is very sweet and is more palatable and much easier made than hay, and I prefer it to any other food, but in a fine season good hay is the best.
1877.	Second crop thick ryegrass and clover.	120 degrees.	110 degrees.	20 lbs.	In-cow cows and young stock.	The silage was in very good condition. There was very little waste in the silo. The cattle relished the food. Altogether the system was a success with no loss.
1878.	Green silage.	Great heat, but kept as sweet.	—	No account kept but pure in quantity.	Bullocks and milch cows.	Should experimenters require me to repeat the mode of making a silage this year, I will gladly do so, and repeat the same way in my description, and in condensed feeding stock. Cattle would do very well on it. Of course I had the usual waste on top and sides, but none at bottom in consequence of the rising ground.
1879 about 4 stacks.	1000—prickly cudweed and grass, some- times dry, and that was used as a very dry grass and grass and grass.	—	—	About 10 lbs or 10 lbs.	Bullocks and young cattle; some horses.	The grass put into the silo was what cattle refused to eat as pasture fields. When a great mass of material was put on, and was dried would be sweet and much like the silage. We put in no grass which would sell for hay at any price. Bullocks and young cattle loved it, it made young cattle eat very fast but, when dried laid in half.

Name and Residence.	No. of Silos.	No. of Stacks.	Dimensions of Silos—Length, Breadth, Depth.	Materials of Silos.			Whether Dressed or not.	Situation: "Below," "Below," or "Above" Surface.	How Exposed to Wind, and how?
				Walls.	Floor.	Roof.			
KILGARE COUNTY.									
Col. J. E. Egan, Jr., Fallsburg, Cal. Marion.	1	—	48 feet by 18 feet; 30 feet deep.	Masonry, plastered with cement.	Concrete.	Corrugated iron.	Not dressed.	Exposed, 4 feet below surface with ramp, visible about 10 feet above surface.	—
W. H. Twining, Esq., Mrs. Twining, Fallsburg, Cal. Marion.	—	1	—	—	—	—	—	—	Yes. Built a circular heap 8 yards in diameter, put on green feed 12 wheats at intervals of 3 days, when it was on, laid with the feed, which made several stacks.
W. J. Farnell, Esq., Fallsburg, Cal. Marion.	—	1	—	—	—	—	—	—	In a stack; stored, weighted with about 4 feet of dirt, which he had spread the best way of making the stack, and weighting it with dirt, &c.
The West Noble the Marble of Crophelia, E. E. Co., Maricopa, Ariz.	1	1	1.11 feet by 12 feet; 12 feet deep. 8 feet by 12 feet; 8 feet deep. 8 feet by 12 feet; 8 feet deep.	Concrete.	Concrete.	Corrugated iron.	Dressed.	Below surface.	Yes, we took a 20 feet long by 12 feet wide of material, and filled it up with manure, grain, and covered the whole up with the earth taken from the pit. The result was as known.
Major R. S. L. Moore, Jr., Elkhart, Ind.	1	1	84 feet by 18 feet; 18 feet deep.	Concrete.	Concrete.	Corrugated iron.	Do.	Above.	Yes, in a field stack.
Thomas Oakes Smith, Esq., Ab. Middlebury, Main.	4 in a yard.	—	Each 12 feet by 12 feet (12 feet deep).	Concrete.	Concrete.	Do.	Yes.	Partly below.	No.
Fredrick Fichte, Esq., Esq., E. Newberry Main, Carbury.	—	4	—	Wool.	The Field.	Clay.	Not.	Above surface.	Yes, in stacks, each 10 feet long, 12 feet wide, and 12 feet deep, pressed by a heavy roller over plastic (sawdust) was laid, and 10 inches of wheel earth placed evenly over them. No wind or fog or frost if built perfectly upright, very little of them or more.
KILKENT COUNTY.									
Michael Doyle Esq., Gloucester, Wiltshire.	—	1	—	Wool.	Field.	Saved hay.	Not.	Above surface.	In a stack 12 feet long, 12 feet wide, 4 feet deep, with green of plants. I had the green material and laid it on a roll or so thick, carefully pressed the dirt out of it, and so on to finish; then put on these for protection.
Robert Nield, Esq., Gloucester, Wiltshire.	—	1	—	—	Surface in field.	Thatched and hay.	—	On the surface.	In two stacks, 12 feet long, 12 feet wide, 12 feet deep, 12 feet by 12 feet, 12 feet wide, 12 feet deep, respectively, built on the ground, the old wheat and straw and straw round the square stones, arranged into the stacks. Never windblown together, what was under a pile on the top, the bunches were like a barrel.

LENSSTER—continued.

Number of days employed in silaging the foregoing stacks.	Materials put in vats or stacks.	Temperature.		Quantity of Silage in lbs. given to Cattle per diem.	To what description of Cattle, if to horses, steers, and how much.	Remarks.
		Greatest Heat.	Average Heat for last 12 Days.			
Eight to ten weeks.	Low-lying old meadow grass.	—	—	30 to 40 lbs.	To dairy cows and young.	I put in my silo every year from 800 to 1,000 loads of grass. It takes one man to keep it evenly spread so it is thrown in, and a woman is employed tramping it round by sides of vats. I do not weight it until the silo is quite full; I then run on boards and 12 inches of rough straw. If fresh grass is added at intervals of not less than 4 days the temperature will not rise to more than 100 days, or 120 days.
About seven days.	Green meadow grass.	—	—	About 20 lbs. with hay or st.	All horses raised in pasture and in house.	Silage very valuable food in winter, no farmer with a number of stock should be without some. It is better food than hay in a dry spring time for more cattle, and gives extra for stall feeding. Hays and green is no there. Hays not fed on is greenish and stays on it. Very good for dairy cows.
About six days.	Green meadow grass.	No temperature taken.		About 20 lbs.	Well-fed cattle.	We found this year's silage much superior to any we have yet made; much less waste on sides by soaking in a round which than in silos or squares.
Half filled four times.	Meadow grass.	110 deg. Fahr.	100 deg. Fahr.	About 20 lbs.	Milk cows and other cattle.	This is the seventh year we have made ensilage, and still highly approve of it, as it enables us to keep more stock than we formerly did, but find that in giving it to milk cows great care must be observed as to quality given.
8 days.	In silo — grass from under trees, weak edges, &c. in such — old meadow cut up in wet weather.	No taken.		About 15 lbs.	Store cattle.	Silage both in stack and silo good colour, and very little waste. All proceeds added to cattle, but no them on grass. That is stock made in only wet weather.
10 days.	New and old meadow grass and green oats.	No taken.		About 20 lbs. given in meadow with hay, turnips, and old oats to wintering cattle. Some amount given yesterday and 1 lb. of cake to these two loads.	I have not fed horses upon it.	
About 10 days.	Meadow grass in vats, and some in square.	130 degrees.	About 100 degrees.	About 20 lbs. or more, if they eat it.	Four-year old cattle and sheep, in the stable. One dead per day in four hours is very much.	I have had several years' experience of ensilage as food for cattle and sheep, and am so satisfied with it that I do not intend to make any more. I find that grass made into it feeds one-third more stock than when made into hay, even at a 100-1000. I made in this case of new into ensilage last summer, and am more than pleased with the result.
3 days.	Cut hay or meadow grass.	I had not time to examine.		5 to 6 lbs.	To cows in silo and with cows, in two-year old, and yearlings.	I have only to remark that it is eaten by the cattle very quickly, and strengthens them very much soon after they begin to be fed with it, and if it is really good they leave more, but eat it more. I think it is very beneficial food for cattle with other feed.
No. 1 stack 14 days. No. 2 stack 8 days.	No. 1 stack, meadow and dairy cut out of a pasture. No. 2 stack, meadow grass.	Never took the temperature.		All they care to eat up clean, given other is hay.	To more cattle and young horses, some horses I have thrown on the grass, when they pick it up clean.	No. 1 stack was made of very dirty grass and spoiled off the pasture. (run themselves and horses over all the dirty pasture) well I had enough to finish the stack. It has turned out first-class, and the stock are doing well on it. About 4 tonnes on the top and it looks on the sides had to go to the dung heap, but the bottom is good to the very clay.

Name and Location.	No. of Silos.	No. of Stacks.	Dimensions of Silos—Length, Breadth, Depth.	Materials of Silos.			Whether Dressed or not.	Situation: "Below" or "Above" Surface.	How Built: (See note on page 10.)
				Walls.	Floor.	Roof.			
KILKENNY COUNTY —continued.									
Wm. G. Mahan, Esq., Treasurer, Eastern Office, Corkincoast.	-	2	—	—	—	—	—	—	Yes, in stacks. One vertical in stacks high as possible than levelled off. The other (horizontal) was levelled off. The stacks (1) were 20 feet x 10; the other 10 feet x 10.
H. D. Mahan, Esq., J. J. Lough, Esq., Corkin, Corkincoast.	-	2	—	—	—	—	—	—	Yes, in stacks. One vertical in stacks high as possible than levelled off. The other (horizontal) was levelled off. The stacks (1) were 20 feet x 10; the other 10 feet x 10.
" " "	-	2	—	—	—	—	—	—	Yes, in stacks. One vertical in stacks high as possible than levelled off. The other (horizontal) was levelled off. The stacks (1) were 20 feet x 10; the other 10 feet x 10.
Rev. E. J. Mahan, Esq., Bishop, Corkincoast.	-	2	—	—	—	—	—	—	Yes, in stacks. One vertical in stacks high as possible than levelled off. The other (horizontal) was levelled off. The stacks (1) were 20 feet x 10; the other 10 feet x 10.
Rev. Hugh Mahan, Corkin, Corkincoast.	-	2	—	—	—	—	—	—	A stack, 20 by 10 feet, was made in corner of field, and roof was made of straw as each foot of grass was put up. The stacks, about 20 feet high, were made of straw and were 20 feet high and 10 feet wide. The stack was made of straw and was 20 feet high and 10 feet wide.
Frederick Mahan, Esq., J. J. Lough, Corkin, Corkincoast.	-	2	—	—	—	—	—	—	Yes, in stacks. One vertical in stacks high as possible than levelled off. The other (horizontal) was levelled off. The stacks (1) were 20 feet x 10; the other 10 feet x 10.
The Right Hon. the Earl of Corkin, Corkin, Corkincoast.	-	-	—	—	—	—	—	—	—
Wm. G. Mahan, Esq., Treasurer, Eastern Office, Corkincoast.	1 in 100 divi- sions.	-	20 feet by 10 feet 24 feet deep.	Stone and lime, plastered with lime.	Concrete.	Corrugated iron.	No.	Just below and partly sur- face.	No.
H. G. Mahan, Esq., New Ross.	2	-	—	Wood.	Exhibit.	Wood.	No.	Above.	No.
A. O'Donnell, Esq., Corkincoast, Corkincoast.	-	2	—	Stone.	Stone.	Can be topped with bar or straw, &c.	Not.	Above-surface.	It has a stack, 20 by 10 feet, with two horizontal stacks, one of which is 20 feet high and 10 feet wide, and the other is 10 feet high and 10 feet wide. The stack is made of straw and is 20 feet high and 10 feet wide. The stack is made of straw and is 20 feet high and 10 feet wide.

LEINSTER—continued.

Number of days elapsed since ensiling the stock.	Material put in the silo or stack.	Temperature.		Quantity of ensilage in lbs. given to cattle per day.	To what description of cattle: if to horses state so, and how much.	Remarks.
		Greatest heat.	Average heat the first 10 days.			
14 days.	Coarse green and weeds cut in December.	No record.	—	—	Two-year old before and colts cut on grass. No horses.	The stacks were made at intervals while making hay; they consequently lack evenness. The ensilage turned out very bad, and it was eaten greedily by the cattle, some taking it in preference to hay, which was contained amongst the ensilage in the field.
About 4 days each stack.	Various and odds.	Not taken.	—	About 1 stone.	Two-year old before; not to horses.	One stack is not yet opened.
Five weeks.	Grass.	Not tested.	—	About 4 lbs.	Three-year old getting milks.	The cattle got plenty of hay with the ensilage, and the result was satisfactory.
—	—	No note taken.	—	—	Dry stock.	Last year I made unintentional ensilage. I cut a field in October, and as the grass was of an inferior quality I intended to feed it. The weather came on wet, so after the grass had been cut I gave it in, with hopes that after heating it might have some bedding. It heated (unintentionally, as it turned out) as good ensilage as I ever made. There was no rain, no rotting, no weight. On previous years I made ensilage by drawing the material in as quickly as possible after cutting and spreading the same day. I had no power on the work to work it, and it the day was fine to water it. Some complaint it was passed with horses and other, it always yielded well, and the cattle preferred it to the best hay. Last year the quality was quite so good, but the quantity decreased.
About 10 days.	Coarse meadow grass.	Not taken.	—	Stack not yet opened.	Will be given to store cattle and swine, about 15 cwt per 10 lbs. where swine are eaten.	This stack was made very late in the season (end of October). Owing to the open harvest coming in, the grass used could not be cut early. The greater portion of the stack will be kept over till next year, for some of the material having commenced that ensilage (perhaps of anything) by keeping, so long as weight is kept up.
About 10 days.	Meadow grass.	80 degrees.	108 degrees.	About 10 lbs. or more, if they eat it.	Four-year old cattle.	I consider some made into ensilage will feed (and that) more stock than when made into hay, even at a fine season. I shall never make hay again. Ensilage is more suitable for feeding horses and sheep of any kind, especially for good ones.
—	—	—	—	—	—	The hay crop was so good and so heavy that no silage was made.
—	English grass given under trees, &c.	—	—	Only opened today.	Will be given to dairy cows.	Very little ensilage was made here last year. In favourable weather hay can be made cheaper, and we consider the latter better feeding.
About 4 days each.	Meadow grass.	No record kept.	—	It is 10 lbs.	Dairy milk.	Made with water before—result, very good, and hardly any waste. I consider ensilage most valuable for dairy cattle, as it does not impart any unpleasant taste to the milk, which increases the yield.
About 4 days before putting on press.	Coarse pasture and bog grass.	Not ascertained.	—	Not ascertained.	Milk cattle; young horses.	The ensilage I have made from coarse, bog grass. It differs of course from the very much, which can be had sold. With good dry weather I would prefer hay made in such a way as to be good for horses; in wet weather I would prefer ensilage with all old pasture grass.

Name and Residence.	No. of Sites.	No. of Stocks.	Dimensions of Site—Length, Breadth, Depth.	Materials of Fills.			Whether Enclosed or not.	Situation— "Below," "At Level," or "Above" Surface.	Has Enclosure been made with live and dead?
				Walls.	Floor.	Roof.			
KING'S COUNTY. Thomas Longworth, Esq., Rye, N.Y. Greenwich, N.Y. S. Hall, Esq., Rye, N.Y. Rahway, N.J.	2	1	12 feet 2 inches by 1 foot, 3 feet deep. 12 feet by 3 feet; 3 feet deep.	Wood.	Broken stones.	Timber and shales.	Yes.	Below.	Yes. In a stock, 12 feet square and 3 feet high with live and dead setting 12 feet by 12 feet with live and dead setting.
W. T. French, Esq., J.P., Bedford L. Smith, Co. Tipperary.	-	1	48 feet by 18 feet; 13 feet deep.	Bricks and mortar.	Marble.	Marble.	No.	At above.	One stock in the corner, square and green wood and covered with clay, made like a corner trap; lower during the winter of grass covered, driven up, edge raised.
Jonathan Dury, Esq., J.P., Long Castle, New York.	2	-	90 feet by 18 feet; 13 feet deep. 10 feet by 12 feet; 12 feet deep. 10 feet by 12 feet; 12 feet deep.	Bricks, mortar, cement, plaster.	Clay.	Galvanized iron and wood frame.	No.	Below.	No.
Mr. John Coffey, Johnsville, New York.	1	1	12 feet by 11 feet; 11 feet deep.	Concrete.	Earth.	Untreated iron.	No.	Partly below and partly above.	Yes; 12 feet by 12 feet, about 1 foot high with live and dead setting, 12 feet by 12 feet, about 1 foot high with live and dead setting.
W. B. H. L. Yonson, Esq., N.Y. New York.	2	-	-	-	-	-	-	-	-
Edward Adams, Esq., New York.	-	1	-	-	-	-	-	-	-
Anthony J. Robinson, Esq., Goldens, New York.	-	1	-	-	-	-	-	-	-
High Roy, Abbot New York, New York.	-	1	-	-	-	-	-	-	-
Henry G. White, Esq., J.P., New York.	-	1	-	-	-	-	-	-	-
George Haug, Esq., New York, New York.	-	1	-	-	-	-	-	-	-
Raymond Dyer, Esq., J.P., New York.	2	-	12 feet by 12 feet by 12 feet; 12 feet deep (about 12 feet by 12 feet, 12 feet deep).	Concrete.	1 gravel, 2 concrete.	Untreated iron.	No.	Partly below.	No.

LEINSTER—continued.

Number of silos or stacks in field or pasture.	Materials put in silo or stack.	Temperature.		Quantity of feed left in silo, given to cattle per day.	To what description of cattle, if to horses, sheep, and how much.	Remarks.
		Greatest Heat.	Average Heat for last 10 days.			
Stack 8 for cows, mostly in field, but they were dried from grass to time.	Hay grass and clover and other green grass.	Not tried.		About 18 to 20 lbs. with a little hay.	Principally cows, cattle, but some being sent to end of season, in winter given to some stock.	The cattle (mostly) fed on the silage have been steady in their feed on potato cake, and have made very good condition. I believe that silage will do better on milk and eggs and beef more than on the same green. There is but much waste with a rack made in the ordinary way with slats only 18 inches in a stack of about 18 inches. I shall try a plan this year which I believe will reduce this waste to one-third.
Stack 16.	Grass.	No water was	48 thermometer	at the top day in mid-July, without roots; 18 lbs. per day to milk-cows, with slats; 14 lbs. per day to some cattle in field.	240 lbs. and cattle on the silage intended for June and July feed.	My principle is to keep hay in suitable weather, and silage when weather is wet; but frequently have both going on in the same field. After five years' experience I find you don't require any thermometer for silage silage if you are satisfied in your own mind to give it last of season in case to the top outside. It will keep a few weeks of fresh grass each day the last is completely kept under ground. If weather is not good to take a whole lot of silage, making portions of your stock to eat, which is a waste of time when the time comes round to get out. The waste outside does not exceed 4 inches. I try to keep silage under the same of the stack as to support the crop, in order to bring it out as the silage and make, like giving green for pasture to the horse and especially including waste on silage. For cutting more cattle I find silage, during hard dry winds to be much more valuable—better than hay—and for milk-cows the use naturally serves well.
—	Good grass.	—	—	About 18 to 20 lbs. the field.	Young sheep, cattle and milk cows.	I am of the same opinion as already expressed in returns for former years.
For 1 day, in summer.	Ordinary meadow grass.	—	—	200 to 250 lbs.	All sorts of cattle, in-half cattle, cows and horses.	This season's silage very good. Some kept very well from last season. All cattle and horses doing well on silage, and prefer it always to good hay or oak leaves.
4000 lbs. for silage.	Old meadow grass.	Not tried.	—	—	Store cattle and milk cows.	I consider it good feed for cattle, and for sheep made than hay of a dropping year, as there is no risk in making it, and the water the weather the stack it is to make it, and the less pressing it requires.
—	—	—	—	—	—	All sorts of stock, except 1 time which was ill in summer, 1890. Silage taken off, 1890, and rotted in top. Opened February, 1891, silage very good, that of 1890 not so good.
About 4 days.	The grass of a meadow of old meadow.	Not tried.	—	As much as they would eat twice a day.	Store cattle.	Consider it good feed for store cattle previous to going to grass.
4 days.	Coarse meadow grass, and clover.	Did not test it.	—	From 12 to 18 lbs.	Two and a half year horses.	I made the ensilage about the 20th of September last, and am now using it with 40 large cattle, and am more successful each year than the value of properly made ensilage is not known so much as it should be.
About 10 days.	—	100 degrees, — 50 to 120 degs.	60 lbs.	—	Very good for such as we have for young cattle and horses, young horses will do ensilage.	Ensilage, if properly made, is excellent fodder for cattle. The temperature should be from 120 to 140, at that heat you may be sure to have sweet ensilage. The process should not be kept on until the temperature is to 180 Fahrenheit. If pressed across the grass will remain quite green—more to make more ensilage.
1 week.	Old meadow grass.	—	—	As much as they care to eat.	—	—
4 . . .	Grass of old meadow.	No way to ascertain.	—	—	2 year old horses and milk cows.	The stack, 18 lbs. by 12 feet, the produce of 14 acres (fresh) was made in a hollow part of the meadow. I covered it with grass about 1 or 2 feet high. You only have to get the air to make good ensilage. For more cattle I would prefer it to hay.
First at all time when weather was tolerable for 1 day, but the silage was not nearly so much.	Old meadow grass.	Not taken.	—	Could not say, as it is given alternately with hay on the grass.	It is given to carrying some cattle.	—

LEINSTER—continued.

Number of days elapsed in silage or ensilage.	Materials put in silo or tank.	Temperature.		Quantity of Silage in the silo, given to cattle per acre.	To what description of cattle: if to horses state so, and how much.	Remarks.	
		Closest Heat.	Average Heat for first 15 days.				
3 days, working in silage every other day.	—	1st degree.	—	27 1/2 in. one feed at night.	Shed-feeding for 1st class. 200 horses.	I filled two silos with old meadow grass, and made one stack with straw, weighted on top with about 100 lbs. weight of straw to straw feed. It did well with very little waste on sides, about 17 cubic ft. of straw on stack with horse's power. One silo filled with old hay and straw weighed 100 lbs. and straw's power while filling; no waste. Perfect success.	
One day only.	Green wheat or barley meadow.	—	About 40 degrees.	About 100 lbs.	Two-year old horses; not given to horses.	—	
About 2 days, night, 4th and 5th.	Green grass from bottom meadow, and old residue.	Not taken.	—	As much as they can take.	Young stock only.	The silage turned out sweet and of a rather dark colour but very good, the horse stock, but the horse stock were of a much better colour and more, it appeared to be the best feed, but stock retained both equally well.	
At intervals of two days work, and last 2 weeks to ensilage down. It was five weeks before ensilage was made.	Meadow upland hay.	Not tested by thermometer.	Thermometer.	For 3 months, ensilage, not 1/2, half ensilage, half hay.	Shed cattle, young and old; horses.	It has been used by my 10-year old colting horse; also for three months by feeding sheep. The silage came out as above green, sweet and fine, and being tested, the silage was of the same three times under pressure of nearly half stone as the material between each filling, and finally weighed with straw, at 100 lbs. per acre.	
One day only.	Old pasture grass, 12 weeks there was a great proportion of clover.	Had no way for testing accurately.	—	Not weighed, given alternately with good hay in such quantities as cattle and sheep.	Shed and in-calf cows, young stock of 1st class, and to winter calves, as 3 from 2 weeks old; also cows having lambs. Not given to horses, as they would not eat it, but was given to sheep, and they were fed on it, some with milk on the grass.	When all ground took, ensilage was having been inserted in stack for a few months it was fed by the horse stock. The silage contained nothing but old and very good hay, and put on a great quantity, which we have taken all and carried on for feeding to the middle of January. The stock remained throughout and seems to take it well.	
About 10 days.	Grass only.	1st degree, Fair.	7th degree, Fair.	As well as the thermometer.	As the more or less, according to age.	Horned stock—cows to horses.	I wintered my cattle for 12 weeks on average, and found that they did remarkably well. The silage was of the same quality as before it made over and better feeding than the same grass in hay. On average my cattle were just as this condition, and made a very good and healthy appearance throughout. I believe inferior grass will make inferior ensilage and vice versa.
About 10 days.	Grass.	1st degree of exp.	1st degree of exp.	1st degree of exp.	Shed cattle only.	I had not prepared the ensilage when two weeks in my house, as that I could not give you any information. However, not well in 12 weeks I am using it, the cattle eat it well. I made it about 12 days, which filling it together I added to grass. I think it might be well to state I was in the house then, and as before (of which I gave you a sketch) I put hay on top, which was about 12 days old. I have not heard the last, which will all come out for the winter.	
—	Mixed quality of grass, mostly coarse bottom.	Not ascertained by thermometer, but had an iron spear pressed into the stack up to the top of the stack, and when I brought it out to look in the back, just on some more top of grass, which reduced the temperature.	—	The silage was fed in the field, and to record of the quantity to each cow.	Horned cattle, dairy, old and young. Young horses also fed on it, and in paddock, but on record of quality, given them. It was scattered on the ground where they fed.	Mr. Cook's report was in 1891. Making stock, not so large as in 1890, and had under 1000 of old and new grass. Some of the best was fed this year, of course the last. I had not any more silage over at the bottom. When stock retained the highest value of old grass had it covered all over with three layers of straw, which was about 12 days old, by 12 or 15 inches wide, and placed as to be a few feet or so over the silage and straw. The straw was all under bottom feed, and had no more straw at top. All the stock fed on the ensilage looked well. I never had young really looking better at this season of the year.	
3 days.	Old meadow grass.	One day only.	—	As I never had any at the silage we put 1 cent on each day.	Horned cattle only.	I have made one stack of ensilage in your way, but it is half as if it were but a few, had several too much of straw and over it, the silage was all under bottom feed, and had no more straw at top. It was given to sheep. When it was fed it was of the best. I entered a lot of silage and straw of nearly two tons.	

Name and Residence.	No. of Sties.	No. of Stacks.	Dimensions of Sties—Length, Breadth, Depth.	Materials of Sties.			Whether Destroyed or not.	Situation—Before, During, or After Harvest, or Above Surface.	Has Earthen been made within Stie, and how?
				Walls.	Floor.	Roof.			
LOUTH COUNTY.									
A. Marsh, Esq., 27, Drymore-st., Dublin.	-	1	—	—	—	—	—	—	Stack made at side of old gravel pit; staves put on both top of stack.
Major-General G.R. S. Wheeler, Esq., Oldswown, Cheshire.	-	1	—	—	—	—	—	—	Made in stack, 10 feet long, 10 feet wide, 10 feet deep.
Thomas Corrigan, Esq., Termondoon, Louth.	-	1	—	—	—	—	—	—	Tramped the straw in a trough, and Jeremy-Gra laid it, then spread on top, and put the outside with a long knife.
Miss M. E. Rytherford, Glasheen, Carrigrohilly, Louth.	-	-	—	—	—	—	—	—	—
MEATH COUNTY.									
H. Brady, Esq., Newborough, Louth.	-	1	—	—	—	—	—	—	The (by stacking the straw on the field in a circle, a diameter of 10 feet, having about 10 feet circumference. Then for a diameter stackling in the centre of stack. Finally surrounding the stack with about 10 feet of rough, slightly raised, in centre.
F. R. Delaney, Esq., Ar., Bobsbridge, Louth.	-	1	—	—	—	—	—	—	—
The Rt. Hon. the Earl of Dunry, Clifton Lodge, Ashby.	-	1	—	—	—	—	—	—	Yes; by putting the straw into a wheel (diameter 10 feet), surrounding with 10 was set, and when it ended, a trench was cut round the heap, and the straw thrown into the top to a depth of about 2 feet.
John T. H. Longan, Esq., Mount Bailey, Hill of Down.	-	1	—	—	—	—	—	—	By building the straw into a cone, keeping it well packed all round, to prevent waste, and weighing the straw as it was added.
Edward W. Fox, Esq., Rathfriland, Louth.	-	4	—	—	—	—	—	—	Without also, in a stack 10 feet by 10 feet, and 4 or 5 feet high.
Morgan T. Botherham, Esq., Ballinaw, Louth.	-	1	—	—	—	—	—	—	One stack in the open field on the section, 10 feet in diameter, 10 days making, settled down to 4 feet 6 inches; four days after rain, it was covered with 10 inches of soil, and from a trench round it, a diameter of 10 inches on outside, 10 inches on inside, 10 inches on top, the straw was thrown into the stack, and the straw on the outside from west of weighing weights.
Christopher Smith, Esq., Kilsnoe, Louth.	-	1	—	—	—	—	—	—	The outside was raised and heaped to keep out the air, as there is waste on the outside; not to be laid high, a good breadth is 10 feet in front view. I made one last year 10 feet by 10 feet and higher from outside section.

LEINSTER—continued.

Number of days ensilage in silo or stack.	Materials put in silo or stack.	Temperature.		Quantity of ensilage in ton, given in Cattle per diem.	To what description of Cattle it is applied, and how much.	Remarks.
		Greatest Heat.	Average Heat for first 15 days.			
4 days.	Grass from old pasture and tender tops.	120 degrees.	120 degrees.	14 lbs. but not every day.	Cows.	Good ensilage and eaten freely. Milk not injured, and better improved.
2 years each day for 10 days.	Young meadow hay and about 1 acre fine grass.	Not taken.	Not taken.	2 stones.	Milk cows.	The cows seemed to eat it quite as well as the finest hay, it kept them in flow of milk, although they got nothing extra until very lately, when they were given, in addition, one good load of mangolds daily.
3 days.	Vegetables.	Not taken.	Not taken.	20 lbs. with hay and turnips.	Stall-fed, which did well on it.	I had two feet on the outside of me, the rest was good. Vegetables make the finest of ensilage.
—	—	—	—	—	—	We did not till the field last summer, I am sorry to say. We intended to get the second crop of green (late 20 to September), but owing to the cold wet weather the second crop was a failure, so our silo is empty. We must try very much, and hope to arrive at something again.
12 days.	Principally young grass of pasture.	120 degrees.	50 to 100 days.	—	Stall-fed, which does well on it.	I prefer feeding cattle in houses with the ensilage to giving it out on the pasture.
—	—	—	—	—	—	I have had no particular of the ensilage I make. I have made large quantities, and in many ways. I find the cheapest and best to be a coarse stack in the field, about 12 to 14 inches, covered with clay and soil; about 2 to 3 to 4 square feet. More in wet weather, and do not above 12 more than 12 days without getting on fresh grass till needed.
about 12 or 17 days.	Meadow grass 20 Cattle within the first few days.	120 to 125 degrees.	120 to 125 degrees—lowest 20 Cattle within the first few days.	Not measured.	Store cattle, hay is also given. The young horses in the stall do not like it very much.	The temperature was not taken in 1860. One of the stacks made in 1860 was not used till the winter of 1861, and was found to be in excellent condition. Of course there was rather more waste on the outside of the one that was kept longer. The height of the side of the stack when sorted is about 1 foot.
On and on about 15 days.	Grass which had become too heavy for mowing.	—	—	about 14 lbs. I should say.	Good, well-bred cattle, also young calves.	I find my cattle fed on ensilage are in much better condition than those wintered on good hay. But if the horses are not cut on very good pasture to which they will not keep their advance in condition.
From 2 to 10 days.	Grass.	Don't know.	Don't know.	Don't know.	All sorts of cattle; not horses.	I believe there is more food and better feed in the worst sort of green made (i.e. ensilage) than hay, but I prefer to give them mixed to cattle.
4 days.	Grass.	—	—	—	Cattle only, of all ages.	Some stacks two years old were very good but for the damage on the outside. I would say your ensilage is better than even, and much more suited for keeping over.
10 days.	Old meadow with 1 foot of clay on top to keep out the air.	No measure.	For best.	15 lbs. with hay once a day.	My own calves in calf and milking.	I want for cheap cattle feeding as it is hard to make hay; a greater number of cattle can be fed with it than with hay; the cattle are better on it as well as more fed on hay. I always give hay once a day; they are fatter of ensilage than hay. I feed with it in houses and out on the land.

LEINSTER—continued.

Number of days elapsed since the silage was made.	Material put in the silage.	Temperature.		Quantity of silage in the silage given to cattle per day.	To what description of cattle it is given, and how much.	Remarks.
		Greenest Heat.	Average Heat for last 15 days.			
seven days.	Common herb- age off bet- ten land.	Not taken.	Not taken.	12 lbs.	1 and 2 year old bulls.	The silage coming was the only preserve used. We had about six batches of waste sent to the city, which would not cover half the loss of stock, were covered to throw off the rain. Com- pared to last year, this stock had 1200 lbs. of silage, which at this date was 1 ton in the city.
From time to time, when weather was suitable for feeding.	Old meadow.	None taken.	None taken.	As much as they can eat.	Cows and young cattle. 100 lbs. of silage and young cattle.	We made three silage stacks this year, simply keeping the grass in a corner of field and putting earth on top.
Five days.	Green.	Not taken.	Not taken.	About 20 lbs.	Cattle on grass and silage stack.	I remember silage was used with the most economical way of feeding cattle. I say and have the grass (or other silage) as well as possible, and remember that the chief advantage to be obtained for cattle is that it can be made in wet seasons when they would be spoiled. It also partially takes the place of roots for well feeding.
Several days.	Green, and grass, and grass.	No register kept.	No register kept.	One to four stacks.	Cattle, feeding cattle, dairy cows.	One stack made three years since on Johnstone's method system. Earlier grass quite good, this year, no silage on this for year 12 months. The present silage of last year's grass, grass with silage in first time, as well as in second time, for silage as silage and stack, 100 lbs. of silage, 100 lbs. of silage. Other stacks not yet opened.
—	Old meadow grass.	—	—	From 10 lbs. to 15 lbs.	Cattle and sheep silage.	The two silage are pressed with Messrs. J. W. Reynolds & Co.'s patent compression.
From time to time during month.	Meadow grass.	Not taken.	Not taken.	About 10 lbs. to 15 lbs. along with hay.	Spoke cattle, still silage and young cattle.	Overlying cattle have done well with silage and hay, especially during this dry season.
—	Round crop and grass.	Not taken.	Not taken.	10 lbs. per day, with hay.	Sheep, cattle and cows.	—
Four days.	Grass in silage.	I don't let them look at it, if possible, after it is in the silage.	I don't let them look at it, if possible, after it is in the silage.	Don't know, as much as they like.	Still feeding cattle, young cattle, and cows to horses.	I think there should be no money spent making silage by machinery, it is much better done with 10 lbs. of silage day from round the stack, the stack should be covered off to the top, with a rise of July 6th, the less silage you have the better, as there is no waste anywhere else.
Five days.	Old meadow grass.	About 120 or 130 degrees.	Not kept.	Never weighed it.	Dairy cows and young cattle.	For accuracy in labour, where such is available, the mode can be better all round. After thirty years' experience I consider no hay equal to the for silage and silage.
—	Ordinary meadow grass.	—	—	Same.	Two-year old bulls.	—
Three days.	Old meadow grass.	I cannot give the temperature.	I cannot give the temperature.	I cannot say as much as they will eat.	Blackheads and cows.	I find the quality made in silage very good, though there is a good deal of waste in every silage, more at all at top of silage stacks. It is excellent food for dairy cows, and does not improve well upon it.

Name and Residence.	No. of Bldg.	No. of Rooms.	Dimensions of Bldg.—Length, Breadth, Depth.	Materials of Bldg.			Whether Drained or not.	Situation, "Below," "Partly Below," or "Above" Surface.	How Building was made with respect to level.
				Walls.	Floor.	Roof.			
SEATE COUNTY— continued.									
Mr John P. Dillon, Burl. P. Lassiter's, Norton.	2	1	40 feet by 10 feet; 10 feet deep. 40 feet by 10 feet; 10 feet deep. 10 feet by 10 feet; 10 feet deep.	Concrete.	Concrete.	Curved, corrugated iron.	Drained.	Partly below.	Yes; in a stack with top shavings up to it.
High John, Esq., Tall Hill.	—	1	—	—	—	—	—	—	Without a stack of grass, a tree, bamboos; grass on floor.
N. Howard, Esq., D.L., Burl. P. Lassiter's, Norton.	4	4	40 feet by 10 feet; 10 feet deep. 40 feet by 10 feet; 10 feet deep. 40 feet by 10 feet; 10 feet deep. 10 feet by 10 feet; 10 feet deep.	Stone.	Concrete.	Galvanized.	No.	Partly below.	Yes; in round stacks altogether about 4 acres, Irish, in 1888.
John Bond, Esq., Cor- new Green, Norton.	—	1	—	—	—	—	—	—	Made in stack of long grass, shaped round, 10 feet in diameter, and 10 feet high. When finished and covered with a coat of earth, and all round a half an acre, stack, and covered with straw green start to finish.
James Martin, Esq., Kilbuckmore, Wil- liamsburg.	—	2	—	—	—	—	—	—	—
John Green, Esq., J.P. Goussier's, Burl. P. Lassiter's, Norton.	—	1	—	—	—	—	—	—	1 set ordinary sea- dew grass, like pit about 24 feet deep, 20 feet long, by 12 feet wide, and 10 feet high, covered with straw, and while putting in and when finished weighed in with hay about 24 feet deep.
James T. Suter, Esq., J.P. Goussier's, Burl. P. Lassiter's, Norton.	2	—	(1) 40 feet by 10 feet; 10 feet deep. (2) 40 feet by 10 feet; 14 feet deep.	1 foot.	Concrete.	Iron.	Drained.	Above surface of soil, and below sur- face 2 feet. Do.	Stack has been made without soil.
Madison West, Esq., agent to the Moss Coke the Magnolia Coke Works, Moss Coke.	—	1	—	—	—	—	—	—	Yes. A stack of 8 feet by 10 feet by 10 feet high, made of all 1888. Grass started to grow on the top of stack, every one and right over the stack, a large horse being used. When finished, the two ends were cut off and put on the top. Weighted with heavy planks and bag stones.
Robert Foster, Esq., J.P. Goussier's, Burl. P. Lassiter's, Norton.	1	2	40 feet by 10 feet; 10 feet deep.	Stone and mor- tar, laid with columns.	Concrete.	Corrugated iron.	No drain.	In side of ground, 10 feet below surface.	Yes. In (two) the case of these, made in 1888, weighted with the straw about 8 feet by 10 feet, weighted by John bond with 1888 grass.

LEINSTER—continued.

Number of days required to finish the ensilage.	Material used in the silage.	Temperature.		Quantity of ensilage in the silage, per acre.	To what description of cattle it is given, and how much.	Remarks.
		Onset Heat.	Average Heat for first 10 days.			
—	High-cream and low-cream.	118 degrees.	About 124 degrees.	47 lbs. second day.	Strongly acid and staled.	I had only about 100 allowed to get much ripper than was used at first. The rest I have made into silage, and the quality has been fairly formed. If only in the silage, the ensilage has so strong a smell some cattle will not eat it.
About 15.	Second crop of the land.	—	118 degrees—will bottom with weight to 120 days.	About 16 lbs.	April, my first lot a year old; none.	When cattle have finished the ensilage about end of May, get the rest of the lot of silage cut into equal parts. They will come on for another lot than an acre day; but the only quality of ensilage will not do on plain ground.
—	Ground oats and broken.	—	—	—	—	—
22 days.	Young second crop of the land.	Not tested.	—	14 lbs. with straw feed.	Shall feed these 22 days old.	On while making and put in stack immediately; was confirmed all the time while making, this stack was admitted to be far better than any other made in the neighbourhood, which I attribute to the quality of the ground and the wet weather in which it was made.
—	—	—	—	—	—	I made two stacks of ensilage last year, but the grass which composed them had remained too long in the field before removed and the ensilage was not so good, and there was more waste than usual, notwithstanding it fed well. We made the stacks in the corner of a field, putting the heads up on three sides they got too high. When completed we allowed two or three days for the stacks to sink and then covered them with straw and hay from a field as round them. It had no kind of water, and I have noticed that horses and sheep in the field in it also. I consider it looks about as well as a half the number of cattle that the same quantity of hay would feed, and that the waste on the ground is not much in excess of what would occur on the ground of straw as a third of hay in the same quantity. The greater and thicker the grass is cut and improved, the better the ensilage will be.
About 14 days at harvest.	Ordinary meadow.	Not tested.	—	About 40 lbs.	Put cattle, sheep, and milk cows.	I consider it is excellent for the cattle of all ages. Working oxen do remarkably well on it, and it improves the milk of cows. I have no objection to saying the same quality of hay given more largely quantity of feeding when made into ensilage than when made into hay.
14 days.	Old pasture.	About 120 degrees.	About 120 degrees.	40 lbs.	Milk cows and some cattle.	The dropping dimensions of silage is terrible measurement, with acidity rapid.
Eight days.	Grass.	—	—	30 to 40 lbs.	Cows, sheep, and some cattle.	Amount of waste small. Stack very solid. One cubic foot weighed 40 lbs.
But the silage was made from time to time. During my work, each stack was made in 2 days.	Meadow grass in silage.	Not known.	—	36 lbs. each to each cow, besides corn, and some. About 40 lbs. to each cow, besides corn, and some. About 40 lbs. to each cow, besides corn, and some.	Still in silage.	All the silage had sufficient to become "very silage." The silage was good enough to allow of its being made. The silage was made in 2 days to make it better. The silage was made in 2 days to make it better.

Name and Residence.	No. of Sites.	No. of Stacks.	Dimensions of Sites—Length, Breadth, Depth.	Materials of Sites.			Whether divided or not.	Shutting: "Below," "Partly Below," or "Above" Surface.	Has Ensilage been made with it, and how?
				Walls.	Floor.	Roof.			
WEAVER COUNTY—continued.									
William Thiel, Esq., Bellevue, N.Y.	-	1	—	—	—	—	Not.	Above surface.	In a round stack 20 feet in diameter, by 4 feet 6 inches.
The Sons of C. A. Nicholson, per Mr. Peter Peters, Lager House, Kingsport.	-	1	—	—	—	—	—	—	Stack 20 feet long, 14 feet broad, 12 feet high, with all produce well finished, when it was covered with earth to a depth of 2 feet on top.
Matthew Pomeroy, Esq., Bellevue.	-	1	14 feet by 12 feet; 4 feet deep.	—	—	—	—	—	In a dry field, in a pile 24 feet long, 12 feet wide, and 3 feet in depth.
QUEEN'S COUNTY.									
H. C. Phillips, Esq., for the Rural Dist. Agent, the Rural Agent, Albany.	2	1	14 feet 6 inches by 12 feet; 12 feet deep.	Stone.	Gravel.	Iron.	Not.	Partly below.	Ensilage has been made in a stack, pressed with planks and chains, and secured with wire kept on tight.
Wm. Young, Esq., Rt. Broadway Park, Brooklyn.	-	1	—	—	—	—	—	Above.	The silage is in a stack 20 feet by 12 feet by 12 feet when finished and pressed down.
W. Jones, Esq., J.P., Bellevue.	-	4	—	—	—	—	—	—	With a stack of grain, and by first having up the grain on top.
Orlando Thomas S. Thiel, J.P., Bellevue, N.Y.	-	1	—	—	—	—	—	—	Stack.
Henry O. White, Esq., J.P., Bellevue.	1	2	40 feet by 24 feet; 14 feet deep.	Stone.	Stone.	Iron.	—	Partly below and partly above.	Made in stack in field, weighted with dry and soil.
Geo. T. Hamilton, Esq., Bellevue, N.Y.	2	-	No. 1—14 feet by 14 feet 6 inches; 12 feet deep. No. 2—14 feet by 14 feet; 12 feet deep.	Rubble masonry, lined with straw.	Gravel.	Corrugated iron.	Ensilaged.	4 feet below surface.	No.
General R. White, C.S., Bellevue, N.Y.	-	2	—	—	—	—	—	—	In a stack of feeding, 20 feet wide, 12 feet deep. With a wire. No. 1—14 feet by 14 feet 6 inches; 12 feet deep. No. 2—14 feet by 14 feet; 12 feet deep. When it is 4 feet high there are heavy stakes laid on it; planks are laid at intervals between.
George H. White, Esq., Bellevue, N.Y.	-	1	—	—	—	—	—	—	Yes; in stack of feeding, 20 feet wide, 12 feet deep, weighted heavily with straw. No. 1—14 feet by 14 feet 6 inches; 12 feet deep. No. 2—14 feet by 14 feet; 12 feet deep.

PROVIDE OF

[illegible]

LEINSTER—continued

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Name and Residence.	No. of acres.	No. of Stacks.	Dimensions of Silo—Length, Breadth, Depth.	Materials of Silos.			Whether Drained or not.	Situation—Below, partly below, or above surface.	Has Earflaps been made with a fork and how?
				Walls.	Floor.	Roof.			
WICKFORD COUNTY.									
L. A. Fyres, Esq., J.P., Newmarket, Essex, Essex County.	2	-	22 feet by 15 feet, 22 feet deep; 22 feet by 15 feet; 22 feet deep.	Slope and concrete concrete cemented Do.	Concrete. Do.	Galvanized iron. Do.	Drain not made.	Partly below.	About 30 tons when completed from the top (stack) con- structed in preparation of material of material their weight.
WICKLOW COUNTY.									
T. Winder, Esq., Tem- more, Newmarket, Essex County.	1	-	40 feet by 30 feet; 12 feet deep.	Concrete.	Concrete.	Do.	Drained.	Partly below.	22 tons in a silo.
George Smith, Esq., J.P., Lamb, Esq., Essex County.	1	-	—	—	—	—	—	—	—
Philip Hastings, Esq., Essex County.	-	-	—	—	—	—	—	—	—
" " " "	2	-	No. 1—40 feet by 22 feet; 22 feet deep. No. 2—40 feet by 15 feet; 22 feet deep.	Masonry. Do.	Concrete. Do.	Corrugated iron. Slate.	Not. Do.	Partly below; partly above. Above: rising from the half way up.	Not in line.
Mrs. Jeth. Owen, Lonsdale, Esq., Essex County.	-	1	—	—	—	—	—	—	Without a silo. Round stack, covered in and weighted with soil.
Major E. M. Bayly, J.P., Essex County.	1	-	22 feet by 22 feet; 12 feet deep.	Concrete (cemented).	Concrete.	Slate.	Not.	Partly below.	No.
W. F. Mitchell, Esq., J.P., Esq., Essex County.	-	1	—	—	—	—	—	—	Yes, in a round stack, 22 feet by 12 feet, 12 feet deep. The top of the stack was covered, and covered with plaster. Some was weighted with stones and stones, do.

CLARE COUNTY.									
James Bradley, Esq., Clonsilla, Esq., Clonsilla.	-	1	—	—	—	—	—	—	In a stack, 12 feet by 12 feet, 12 feet deep. The top of the stack was covered with plaster, from top, weighted with soil and stone.
Adam Elton, Esq., Clonsilla, Esq., Clonsilla.	-	1	—	—	—	—	—	—	Yes, but not in plaster, but the silo was plastered, and the top of the stack was covered with plaster, from top, weighted with soil and stone.

LEINSTER—continued.

Number of days occupied in silaging or making stack.	Materials put in Silo or Stack.	Temperature.		Quantity of Ensilage in Tons, given in Details per item.	To what description of Cattle: if so, horses, steers, and how much.	Remarks.
		Greatest Heat.	Average Heat for first 10 days.			
—	Spring sown (except crop of potatoes, wheat, peas, beans).	Never more than 40 degrees.	—	Could not give nearly so much as when ensilage was made, never more than 18 tons with satisfactory result.	Mixed with other food to all cattle; not horses; good very much of it.	I find that now ensilage as made here this year is not nearly so satisfactory as we get stack ensilage, as although there is also plenty of waste it cannot come so become unsatisfactory.
Three days.	Old pasture mowed.	Not known.	—	Fed altogether on ensilage.	Milk cows and young stock.	Filled the silo when the hay was getting strong, branched and weighted it, as waste, only a little on top; bottom and sides perfectly good.
—	—	—	—	—	—	I have nothing to add to the information supplied last year.
—	—	—	—	—	—	I did not make any ensilage last year. I am only using now the bulk of what was made the previous year in Kilmore. I gave it to milk cows, and was told they would look in their milk, and that the hay was better. I may however say that this silage was some good and the hay good upland.
No record.	Green (mowed).	No record.	—	As much as they will clear up.	All classes of cattle, not to horses.	I have made silage for six years, used to keep record of details, but find it unnecessary now. I'll do this as I can.
14 days, including and weighing.	4 acres old meadow.	—	—	As much as they eat with hay.	Milk cows and calves.	I weighted with clay on top, but if covered all over would be less waste.
A week.	Very poor upland meadow grass.	No record kept.	—	As in the.	Cows and sheep cattle.	I did not make any ensilage last year, but purpose filling my silo this year.
About five days.	Rough plantation grass.	No record kept this year.	—	About 10 tons per head.	Pasturing cattle.	We do not give our ensilage experiments this year, as we ought to get clear more pressing work done; but we consider it to be very much food where it is given in moderation and not wholly depended upon.

MUNSTER.

14 days, but did not ensilage every day.	Old meadow hay.	—	I did not try the temperature, but very hot.	As much as they were able to eat once a day.	Milk cows.	As I find it increases the milk in the cows, I put a layer of it for them, and they would make rather extra than the best of hay, which I often proved to many persons by laying down both to the cows.
About 10 days.	Old meadow grass.	—	Did not test it.	About 10 tons.	Milk cows, one and two year old heifers.	The stack made as stated turned out very well, of a nice light brown colour, with very little waste. Cattle ate it well, and thrives well on it. Given a day is enough to give it to sheep (and then after milking). If given often it causes the milk. I would say it feeds once and a half as much as hay made of the same.

Name and Residence.	No. of Nos.	No. of Plots.	Dimensions of Stone—Length, Breadth, Depth.	Materials of Stone			Whether Drained or Not.	Situation, "Water," "Wind," "Soil," or "Aspect."	How the Drainage was made (with a plan, and how?)
				Walls.	Floor.	Roof.			
CLARE COUNTY—continued.									
George C. G. O'Connell, D.D., Ballinacorney, Co. Wick.	-	1	-	-	-	-	No.	Above.	In stone—12 feet by 12 feet by 4 feet; 4 feet square, 12 feet by 8 feet by 4 feet diagonally. "Went out a side; made an entrance."
Colonel Edward A. O'Connell, D.D., Derry, Co. Wick.	-	1	-	-	-	-	-	-	No.
CORK COUNTY.									
Andrew Smith, Esq., Newry, Co. Wick.	1	-	36 feet 10 inches by 8 feet 4 inches; 11 feet 4 inches deep.	Concrete.	Concrete.	Slab.	Not.	Partly below surface.	In stone, described below.
Stephen Graham, Esq., D.D., Clonsilla, Co. Wick.	-	1	-	-	-	-	-	-	In stone—12 feet by 12 feet by 12 feet.
George Tolson, Esq., J.P., Clonsilla, Co. Wick.	1	-	44 feet by 12 feet; 12 feet deep.	Brick masonry covered with tiles.	Partly covered with bricks.	Roofs covered with felt.	Well drained.	Partly below, partly above.	None laid in the stone.
Capt. M. J. O. Long, Esq., D.D., Clonsilla, Co. Wick.	1	-	44 feet by 20 feet; 12 feet deep.	12 feet stone, described.	Gravel.	Slab.	Not.	Surface level.	No.
Edward Hand, Esq., Ballinacorney, Co. Wick.	1	-	12 feet by 21 feet; 12 feet deep.	Stone masonry.	Clay.	Slab.	No.	4 feet below surface.	-
Thomas Jackson, Esq., A.M., Clonsilla, Co. Wick.	1	1	10 feet by 12 feet; 12 feet deep.	Limestone masonry.	Gravel.	Embossed.	Not.	Above surface.	Yes: in stone, 12 feet long, 12 feet wide, within outer. Outer was made in stone by 12 feet and 12 feet by 12 feet. In field where masonry was given, and yielded over 10 tons of sound masonry with little waste in the stone; ground was given by adding material wherever the compression was too high (about 140°).
W. D. Walker, Esq., Esq., Clonsilla, Co. Wick.	-	1	-	-	-	-	-	-	In 1880 masonry was only made here in stone, of which it was made in stone by 12 feet and 12 feet by 12 feet. In field where masonry was given, and yielded over 10 tons of sound masonry with little waste in the stone; ground was given by adding material wherever the compression was too high (about 140°).
A. E. Smith-Barry, Esq., J.P., Ballinacorney, Co. Wick.	-	1	-	-	-	-	-	-	In a stone 12 feet by 12 feet by 12 feet, with 12 feet square masonry, now being built out with stone was put in and finished with a keylock.

MUNSTER—continued.

Number of days elapsed in silage or ensilage.	Material put in silo or stack.	Temperature.		Quantity of ensilage in the silo given to cattle per day.	To what description of cattle, if any, given, and how much.	Remarks.
		Greatest heat.	Average heat for last 10 days.			
—	Green to two feet; golden chaff in smallest.	—	Did not test.	It is given like hay to the cattle.	Cattle only.	The largest silo was made with Pease's a silo. The two small ones were trampled on. Cattle eat even the middle ensilage with great relish.
10 days.	Good grass.	—	—	100 bush.	Young stock of all sorts, including young horses, young calves, &c.	Cattle and horses, as in previous report, have been healthy and in good condition throughout the winter.
14 days.	Duller grass.	110 degrees, Fahr.	115 degrees, Fahr.	100 bu.	Milk cows.	There was some of the silage damaged by mould in the top of the largest silo in the spring days of 1884. It was otherwise of good quality and relished by the cattle.
14 days.	Old meadow grass.	Not taken.	Not taken.	About 40 bu., according to size of horse.	One and half year old horses.	This stock was given with Johnson's patent wire ropes.
14 days.	Green, with grass.	Kept no record of heat.	Kept no record of heat.	About 10 bu.	Milk cows.	I filled this silo to the top three times, commencing first with 100 bush and ending second week in August. Covered with boards and weighted about 100 lbs. per square foot, and circulated 1000 lbs. of straw. When all consumed in 7 days (10 days) to last then great quantity of milk. Will enlarge silo.
14 days in my own.	Best of grasses cut.	—	—	10 bu.	Milk cows and some cattle.	In commencing stock the grass is trampled by feet. I cover with boards, and half inch boards to cover the grass; boards laid across from end to end of horse, then weighted with stones. Three holes in the boards to let down air to sink the temperature, and pugged up when not taken out.
14 days.	Good grass and red clover.	Did not take temperature.	Did not take temperature.	1 stone per day.	Dairy stock.	Last season being in my district a splendid hay harvest, I made but one instead of four silos as in previous year. From my experience of past few years, I believe that first quality hay is superior to ensilage, the great value of the system being that in a season when it is impossible to make good hay, excellent ensilage can be made.
For 1 day.	Green and red clover.	Not taken.	Not taken.	What they would eat.	Cattle fed to 100 lbs. and weighing to 1000 lbs. with a variety.	This was made 7 years ago, and I found cattle eat it much better than what was formerly made. There was more water about the silo, but it certainly improved by keeping. It was well relished when being made.
Made at home, run through at 4 weeks.	Material run through grass.	Empty.	Average 100.	Unsettled.	Dairy cattle in milk and carrying on pasture.	The silage was received their ensilage in the pasture, being turned out to feed on it once a day. It is found that in the way as laid in the silo as right point if the silage was fed in the houses where the milking takes place.
10 days.	Good grass.	Not taken.	Not taken.	10 bu.	Pease's a silo.	Over ensilage this season was very fine, and the cattle eat it with great relish.

[illegible]

MUNSTER—continued.

Number of days consumed in giving silage, or making stacks.	Materials put in silo or stack.	Temperature.		Quantity of silage in lbs. given to cattle per day.	To what description of cattle; if to horses state so, and how much.	Remarks.
		Greatest heat.	Average heat for first 10 days.			
—	Good grass that cattle won't eat in field.	—	Not taken anywhere this year.	Not weighed.	Store cattle.	I have made some for four years, and find great surplus of good silage made properly by cattle in preference to the best hay; they thrive on it well.
About a fortnight from day to day.	Trifolium, &c.—green, great stalk.	Not taken.	—	About 20 lbs.	Milk cows.	The silage is given to the cattle, chopped with hay and straw, and mixed with corn. I found this silage had a strong effect on the milk. I have liked this silage for several years, but generally with old meadow grass. The silage has always been good.
—	—	—	—	—	—	I grow silage from various seeds and quite different sorts for silage, but was prevented to make any of it. The hay was well mixed, and has given a better result than silage made in this of a similar quantity. It was used to dairy cows in milk, and to farm horses. With such material as various the risk in harvesting is very considerable. With silage there is no risk.
18 days.	Meadow grass, also mixed grass from woods and hags.	—	No take.	10 lbs. to 12 lbs. to dairy cows.	Milk cows, but also some calves and calves from 12 days old and upwards; not to horses.	Best silage is produced from good grass and slowly made, but always from freshly cut grass, I suppose with which you take the silage. Unlike the such silage here, but grass from woods and hags, which would be received even when green, and would generally be full of water for months of feeding, is greatly better when converted into silage. Loss in moisture of stack, a very important point, is only two inches on top and about six inches on sides.
8 days.	The mixture grass.	Not observed.	—	10 lbs. to each cow per day, or 12 lbs. to each.	Milk cows.	—
About 8 days.	Meadow grass.	Not taken.	—	10 lbs. per day.	In-calf cattle; some to horses.	The milk becomes as thick as heavy cream in the case of cows which use the silage.
Three.	Meadow grass.	Very hot.	—	10 to 12 lbs.	Milk cows and young cattle.	I eat it instead of hay.
First slowly; last 8 days each.	About one cow to each square foot.	Never to be hot.	—	About 1 stone.	Dry dairy cows.	My experience of silage or making ensilage is the better the material you put into the silo, the more surplus will be the silage coming out, and the more of water allowing the silo to be covered with good and weighed. All silage will be covered with more or less according to quantity of surplus of material.
15 days.	Meadow grass.	Not taken.	—	10 lbs. to each.	Dry stock of all ages and in calves after calving (and in calves) and in calves (and in calves).	My fourth year of making ensilage. Am satisfaction over with it.
13 days.	Heavily mown grass.	—	—	—	—	—
5 days each silage.	Old meadow grass.	About 100 degrees.	—	10 lbs.	Well-fed and over-fat cattle. Some to horses.	I have well fed at head bullocks and heifers partly with ensilage and one quarter more with old-mow and hay; but very well, and rich in January and February; also old and new silage, and in March and February by cutting it and spreading on the field. No more good hay, second good silage. No, it was not weighed; 100 lbs. very sweet and first-class silage.

Name and Residence.	No. of Stacks.	No. of Stacks.	Dimensions of Stacks—Length, Breadth, Depth.	Materials of Stacks.			Weather Destroyed or not.	Straw or Hay, or Both, or Neither.	How the Stacks were made, with or without a Bin, and how?
				Walls.	Floor.	Roof.			
LIMERICK COUNTY—continued.									
A. White, esq., Agent for The O'Leary, 28, George-street, Limerick.	-	1	—	—	—	—	—	—	Yes: In a stack raised by men working on it.
M. S. Croker, Esq., D.O., Ballinacorney, Limerick.	-	2	—	—	—	—	—	Above.	By stacks, 20 feet by 10 feet; 10 feet by 10 feet, respectively, raised in narrow rows up to them around.
Thos. J. Frazer, Esq., 22, Marymount, Knocking.	-	1	—	—	—	—	—	—	—
J. E. White, Esq., 18, Ash-street, Town, Limerick.	-	4	—	—	—	—	—	—	Yes: in stacks—(1) 10 feet by 10 feet by 10 feet; (2) 10 feet by 10 feet by 10 feet; (3) 10 feet by 10 feet by 10 feet; (4) raised stack, 10 feet in diameter, by digging on the top, and placing material on the sides; (5) raised stack, 10 feet with a heavy roller drawn over long stacks; and by simply turning up or packing the material.
Richard Puckin, Esq., 64, Carr Mr James, Corbally, Galilee Castle, Kinsale.	-	2	—	—	—	—	—	—	In open stacks, both planks from the ground. Two stacks were pressed by Fawcett's roller drawn over the other stack by the line only.
Major J. A. Furlong, Kilmara, Broomale.	-	1	—	—	—	—	—	—	In the open, in a round stack.
J. R. Mear, Esq., 17, Gortree, Ardagh.	-	2	—	—	—	—	—	—	In stacks, 10 feet by 10 feet in diameter.
J. R. Macnamara, Esq., 17, Gortree, Newpark, Tipperary.	-	1	—	—	—	—	—	—	Made in round stack, 10 feet in diameter, built in open field by simply building the air all round; it was made in the middle of a brook, at present, while being made as the ground was being cleared out, and then it was deep of water piled on it.

Name and Residence.	No. of Stacks.	No. of Stacks.	Dimensions of Stack—Length, Breadth, Depth.	Materials of Sides.			Whether Destroyed or not.	Situation: Below, or Above Surface.	How Feedings have been made without loss, and how?
				Walls.	Floors.	Roof.			
TIPPERARY COUNTY.									
W. T. French, Esq., J.R. Malwood, Lorrha.	1	—	34 feet by 12 feet; 12 feet deep.	Brick masonry lined with straw.	Clay.	Galvanized iron raised on poles 4 feet above.	No.	Partly below.	Yes, by making a stack in the open field, but not in the farm this year.
" " "	1	9	40 feet by 12 feet; 12 feet deep.	Concrete.	Clay.	Straw.	Not.	On shore of lake.	Yes, in two stacks, 20 feet square, in the open field, in grass pit.
W. T. French, Esq., J.R. Malwood, Lorrha, Roscrea.	2	—	34 feet by 22 feet; 12 feet deep; 40 feet by 12 feet; 12 feet deep.	Masonry, lined with straw.	Clay.	Galvanized iron, raised 4 feet over top of side.	No.	Partly below.	In stacks, drawing grass as it is mowed like a stack, one day. Also by building the stack like a haystack, covering with straw and straw, and when weighed, these stacks were covered and hay withdrawn, and the straw was used.
Robert Roe, Esq., J.R. Lorne Park, Roscrea.	—	1	—	—	—	—	—	—	Made without a side except an old circular pit, when a last layer is covered. The stack was built by drawing the grass gradually with a fork, and after depositing the last drawing, carrying to the other end. Finally, the grass was drawn to both ends, and the sides were cut off and thrown up on the stack, so that the heavy horses were laid, and a side of hay built on them, and finished.
Harry T. Bridge, Esq., Dangan Park, Roscrea.	—	1	—	—	—	—	—	—	Without a side, stacked in grass pit, and above field of straw above on top.
Edmund K. Smith, Esq., Ashbury, Roscrea.	—	9	—	—	—	—	—	—	I made two or three last stacks—one in the middle of the field where grass was cut, the other in a yard behind the field where the grass was cut.
George Roe, Esq., Lorne Park, Roscrea.	—	8	—	—	—	—	—	—	In two stacks—(1) One stack, 12 feet by 12 feet, 12 feet deep from bottom of pit to top; pit on each side—about 12 feet above, then up on the side of the stack, 12 feet deep from bottom of pit to top, side of pit served as walls, and above the side was a straw stack, as it was in the other.
Mr. M. Gould, Land Surveyor, L. Moore, Esq., D.R. Burren, Clonsilla.	2	1	27 feet by 11 feet; 4 feet deep.	Concrete.	Concrete.	Wood.	Not.	Partly below.	Stacks have been made in a sack, 12 feet square in all. Dimensions: width one side, 12 feet by 12 feet, 12 feet high. It was covered with straw and hay.
Genl. Sir J. B. Gough, G.C.B., Clonsilla, Clonsilla.	—	1	—	—	—	—	—	—	Yes, in stack in hay field. Raised with rough hand placed on straw, and side of hay built on top.

MINSTER—continued

Number of days required to bring the stock to condition	Material put in pile or stack	Temperature		Quantity of feedings in the given number of days	To what description of stock it is applied, and how much	Remarks
		Greatest Heat	Average Heat for first 10 days			
—	Good of good quality.	—	—	14 to 16 lbs.	To store cattle in the stable.	I am of the same opinion as already expressed in returns for previous years.
Three weeks.	Grass and alfalfa.	119 degrees.	110 degrees.	First of ensilage morning, 1 lb. of 1 & 2 at night.	Three year old bulls and heifers, two year old calves also 115 pigs, 2 pigs, per day.	All my cattle and sheep did well. I have been making it for some years, both stacks and silos. Little waste on stacks or silos, covered with straw and clay, on boards a double thick, stacked six to eight high.
—	Good grass.	—	—	About 14 lbs. to feeding more than on the stack, and 11 lbs. to which more in winter.	—	I am of the same opinion as already expressed in returns for previous years.
Drying with sun, leaves every day from day- drying till completed.	Ordinary old moss and grass.	Tried thermometer to dis- cover yeast, but not used.	Not commenced yeast except.	Not commenced yeast except.	Will begin to do at 14 lbs. only.	The silage of the ensilage and gradual drying of the hay in the silos, perfect but no waste, made by using ordinary and additional hay necessary, as much as there is in my silos (purpose feeding the stock with silage of overgrown from which was prevented my having to put on additional hay, or instead the hay, or instead it. Now I don't use a thermometer because, according to my experience, the readings will not sufficiently warn of fermentation one or more is given it. I want to the expense of getting stacks and silos, and especially for the but consider the price I adopt, which produces no waste, good silage and especially so the cost, good enough. In fact, I found there was less waste and better feed.
About 15 days.	Meadow grass.	Thermometer not used.	Not weighed, about 10 lbs.	Not weighed, about 10 lbs.	More bullocks and heifers one horse and some of it.	I have made ensilage for several years on a large pile. I have more waste of course than your case, and I don't like very good that of drying grain in bad weather, but don't pretend to say. The above stack was not on my own, but on Captain J. A. Wainwright's farm.
About 15 days for each.	Old meadow grass.	Not recorded.	As much as ever they can eat.	Three year old bulls; two year old bul- locks.	—	I should have had much pleasure in keeping on account of it. I don't think I would have been able to get the information. But also I found out very well. I weighed some with about 10 pounds each of water thrown up on the stack and stack. Amount of water was then 1 foot to 1 inch in silage, and only about 1 inch on top. Size of stacks—14, 12 feet in diameter; 12, 10 feet by 12 feet.
About 15 weeks.	Ordinary meadow grass and a few blades of ferns for experiment.	Did not use a thermometer every day till the meadow was exhausted.	Took no means to take quantity of the stack as I cannot say as expressed in my previous report.	At 14 lbs. per head was great loss to the stock.	At 14 lbs. per head was great loss to the stock.	I used no pressure only the weight of the grass itself and hay rich silage in. The first was to be done, and the result was that there was no waste, and the depth of silage was 1 foot. The second pile was for hay, and the silage was 1 foot more, making a depth of 1 foot of silage. I saw in my production that there would be much waste. I saw a few loads in the same proportion of the stack, but when given, and the cattle rejected them completely. I saw some of the hay and silage I saw that I could not get the silage, and then give them out. Such is my mode of proceeding, and it seems to answer very well, and that every day I am not able to answer the question more accurately, but I never shall better with a thermometer—no use.
3 days.	Optimal meadow grass in silo and stack.	1st day Fahr. Temperature 12	1st day Fahr. not used.	14 lbs. per day.	To which cover with straw and clay.	About a inches in depth on the outside surface of the stack, and 1 inches on top of the stack, and the waste.
3 days.	Meadow grass.	—	Not taken.	The ensilage is given to feeding and the silage on the grass silage with hay.	—	The ensilage is turning out very good, with only about 1 inch of waste on top, and 1 inch on the sides. The hay on top of ensilage is just as good as when put on.

Name and Residence.	No. of Silos.	No. of Stacks.	Dimensions of Silo—Length, Breadth, Depth.	Materials of Silo.			Whether Destroyed or not.	Situation—Below, or partly below, or above, surface.	How Stacks have been made within a Silo, and how?
				Walls.	Floor.	Roof.			
TIPPERARY									
COUNTY—continued.									
C. O. Springfield, Esq., 28, James Castle, Clonsilla.	—	1	—	—	—	—	—	—	Simply stacked and dry.
Patrick Byrne, Esq., Oungay, Oungay.	—	1	24 feet by 10 feet; 10 feet deep.	Masonry.	Clay.	Slated.	—	On surface.	In a stack in field, 10 feet by 10 feet; 10 feet deep.
James Quinn, Esq., 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.	—	—	—	—	—	—	—	Yes. On a level part of the field I made a stack, 10 feet by 10 feet. In three days I raised it 1 foot. After an interval of one week I raised it again to 15 feet. After another week I again raised it, and put the clay on top about 1 foot. I then brought it to a top with straw and straw.	
WATERFORD									
COUNTY.									
John O'Connell, Esq., 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.	—	—	—	—	—	—	—	Without this, it is an open field, in which 10 feet by 10 feet; 10 feet deep.	
Wm. Percival, Esq., 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255									

MINSTER—continued

Number of days occupied in giving the stock or making stock.	Materials given in this or stock.	Temperature.		Quantity of Stockings in the given or cattle per diem.	To what description of Cattle, if to horses, mares, and how much.	Remarks.
		Cooling Stock.	Average Heat for first 10 days.			
About 10 days.	SWINE STRAW.	No record taken.	No record.	Cattle and young horses.	Feedings was the best I have made for the last three years. Cattle are getting it freely, and thriving on it. I originally made stockings as the country was developed and it was impossible for uneducated people to set fire to the stock. I am of opinion that it is capital feeding, and goes much farther than hay.	
Two days—by night and water on it, and 20 more at 40 cents per 100; 500 lbs.	Good hay from the north.	101 degrees.	Did not mind.	As much as they would eat.	Cattle.	The second season is the feed the same as in the house, but kept in with well-cured hay, both in 1886 and 1890. I have no objection to the three seasons, but the calves did well, and no complaint among them. I did not lose one due to the three seasons while using it. I hope to have it again. I put it on of some of the cattle like the two seasons in the field, and left them as they were.
5 days each, a 100 lbs. a week's interval.	Green off old corn & straw.	Track as temperature.	At the per day dry cows; in the per day young stock.	Answered in last query; none to be made.	1st—No matter how dry the year may be, I will continue to make stockings, and I consider green grass better in feeding than is made dry of it in the usual way. 2nd—I consider it a better feeding and thus saving the grain does in the best method. 3rd—If the weather cannot be made it will weather, provided to have water thrown on it in the morning. I put 100 lbs of water in each of the stacks when it is in the weather there is less chance in making hay than in stockings. I have made stockings in 1886, 1890, and 1891.	
10 days—by 3 men and 3 boys and 1000 cutting and cutting.	Pure grass.	Temperature not taken.	In-calf cattle in the stack each a day; 500 lbs. of straw, 10 lbs.	Not to be made in-calf cows, dry cows, and young stock.	The above stock was made in the open field of grass cut from in some of meadow. The bottom of stack was made of coarse grass and corn, and the stack when finished covered with straw. No water on top or bottom; average was 100 lbs of straw.	
1st.	Green off old pasture.	Not taken.	Not recorded.	Went to feed a stack, calves, and horses.	I formed the cattle and horses give the stockings with relish and horses remarkably well on it, and when we next were prepared the stockings was of great advantage in feeding the stock.	
Filled for about 14 days, after which finished.	Green.	No record.	No record.	Cattle only.	I have used these three years with stockings. I open them up and at January and feed every week and other cows with them until the middle of April. The stage is supplemented with straw or hay. I am convinced that any farmer who has ever given a stock this trial will continue it.	
No exact record.	Grass cut from head-lands and other waste.	Unknown.	About 20 lbs. of straw, 500 lbs. of straw, 100 lbs. of straw.	All the cattle, young stock, and young horses.	We have no exact record of the time taken to fill the stack; I should say about a month. Some of it was used as early as mid of June, some and the top in September. In all the work, it was given with other things to all stock, including milk cows and old cows.	
1000, 4 days, 1000 lbs. of straw, 1000 lbs. of straw, 1000 lbs. of straw.	Green.	—	—	About 20 lbs. per head.	To two-year old and three-year old calves and milk cows, also dairy cows.	The stack was well made by a horse, well covered as top with bedding, and finished with water.

ULSTER

1 day intervals.	AA	Minnow grass.	Not taken.	From 20 to 40 lbs.	Have cattle of various ages.	The young cattle get some twigs in addition to the snails, and are doing well. There is considerable vegetation also, only a little on top of it at this time being fed. Reproductive snails and chads are used for pasture.
1 day.		Perennial grass.	120 degrees, 120 degrees.	40 to 80 lbs.	Primarily dairy although some dairy stock.	Material good—cattle feed on it.
1 day.	B	Ordinary meadow grass.	No record taken.	10 lbs per head per day.	Young cattle and milk cows.	These very often constitute a large meadow tract, with water about 8 feet high, one end being about 1000 and of June, and the other end of July, the pressure being put on by horses, cattle, and sheep are put down by the water, and the grass is cut off at the top of the water and the water is raised; the meadow for that two years has been dry, and, generally eaten by the cattle, which have suffered with it.

Name and Residence.	No. of Sites.	No. of Stacks.	Dimensions of Sites—Length, Breadth, Depth.	Materials of Site.			Whether Drained or not.	Situation: "Below," "Party Below," or "Above" Surface.	How Earth has been made within a Site, and how?
				Walls.	Floor.	Roof.			
ANTRIM COUNTY —continued.									
J. J. Brown, Esq., J. P., Loughlin, Bally- more.	-	1	-	-	-	-	-	-	In a stack, 18 feet by 14 feet, 14 feet deep. The ground below the stack is covered with wire netting.
Robert Mayo, Esq., Ballymore, Bally- more.	1	-	12 feet by 12 feet; 12 feet deep.	Stone, lime.	Cement.	Slates.	Not.	Above surface.	-
John Campbell, Esq., Ballymore, White- abey.	8	1	Each 16 feet by 6 feet; 12 feet deep.	Brick, finished with Portland cement.	Portland ce- ment, concrete.	Wood covered with felt, in divisions like a greenhouse roof, so as to be to the top.	Not. The sides of site entirely for a 6 ft. 6 in. when we come to the entire site are made water-tight when we begin to fill in.	Above sur- face.	Only made a very small stack, which is not yet opened.
William Hargreaves, Esq., Carrick, Carr- ick.	1	-	12 feet by 12 feet 6 inches; 12 feet deep.	Stone and lime.	Concrete.	Slates.	Not.	Above.	No.
John Macarley, Esq., D.L., Red Hill, Bally- more.	-	8	-	-	-	-	-	-	Without site. In stacks 18 feet by 12 feet, where building was placed, about 12 feet deep. Water on ground level. Two days building and waterproofed sides of stack, four walls waterproofed. See "Remarks."
William Stone, Esq., Ballymore, Lough.	-	1	-	-	-	-	-	-	In a stack 15 feet by 15 feet, 8 feet deep, with stones on pressure.
Mr. James Lorne, Land Steward to Thomas Mont- gomery, Esq., J.P., Ballymore, Don- nabert.	-	1	-	-	-	-	-	-	Yes. I have made a stack 12 feet long, 10 feet wide, and when filled down was 12 feet high.
O. H. Caldwell, Esq., Lancaster, Don- nabert.	-	1	-	-	-	-	-	-	Yes. In stack, filled by 12 feet, 12 feet deep, with John-macarley.
Reverend J. McNamee, Esq., D.L., Lough- lin, Lough- lin.	-	1	-	-	-	-	-	-	12 feet long, 12 feet broad, 12 feet deep, when finished.
Robert H. Ireland, Esq., Ballymore, Ander- nabert.	-	8	-	-	-	-	-	-	In two stacks, each 18 feet by 12 feet, used for manure. Stack raised to about 12 feet high, covered with 4 inches of soil, and weighted with stones. In a few days built a stack of straw on top.
Joseph Prill, Esq., Whitehead, Bally- more.	-	1	-	-	-	-	-	-	Stack 12 feet by 12 feet, 7 feet deep. Johnson's pond. One-third end of July, one-third with hay, turned and covered; consolidated afterwards, as above. Much used by cattle.

ULSTER—continued.

Number of cows or milch cattle or milch heifer.	Material put in silo or stack.	Temperature.		Quantity of silage in the given number of days.	To what description of cattle or to breeds used to, and how much.	Remarks.
		Current Rain.	Average Rain for last 10 days.			
March.	Meadow grass and green maize.	Temperature not taken.		40 lbs.	Dairy cows and steers (not to be used).	I use ensilage as a substitute for hay and green crops. The cows eat much less, and my milch are in as good condition as when fed on roots. I had this season about 10 tons of silage made in the stack, mainly as much on sides, and some whatever on top and bottom.
Four days.	Green.	—	—	About 14 lbs.	Cows - not to be used.	There were about 14 inches of damaged silage round the walls; there were some 4 inches on the very top damaged. The silage was very hard or it, the cows damaged in their work with it.
Quoted by.	Silo—grass from field, of which 20- mouldy and rotten. This by much —afternoon.	See "Remarks," 28th.		Cows 10 and 40 lbs.—which I consider as good as the average quan- tity previously given, but I am so abso- lute in the greater quan- tity.	Alfalfa and Jersey cows; not known— about 10-12 inches of silage with their hay decidedly im- proved their condition dur- ing winter.	Ensilage made from grass of hay field has turned out better and will last longer than known stock, as previously, from grass-silage alone.
One day— very wet.	Vegetables, maize, and green.	No means	of testing.	11 lbs.	Milch cows.	Materials put in were a late sowing of vetches, &c., and grass; some very wet a forecast, and put a good deal of it. It was all put in one day and well trampled. Instead of feeding present on it as usual, it was allowed to stand for a fortnight, and then as much hay as could was put on top. The gas from the silage came out up through the hay, but cattle use the hay well. Silage very good.
See below.	Meadow and provision grass.	Current only.	—	Here cattle store 30 lbs. to 100 lbs. each on the 11th.	Sheep cattle and milch cows.	Went in 10 loads grass per day for 4 days, well trampled down; cover with horse dung night and night with a few stones— about 10 tons. The third day it should be about 7 feet high a weight with about 10 tons more. Leave the 10-14 days then repeat process, building and weighing as before, up to any convenient height, finally weighing up to 10 tons.
5 days; then also 10 days a second silo.	Green ma- ize and paddy grass.	Used as instrument.		Only once each day.	Dairy cows.	I have tried making ensilage three times, and found that, if I could keep it out, the cattle ate it readily. In a small stack there is always too much cattle.
Shops.	Meadow grass and green from lawn.	100 degrees.	110 degrees.	About 40 lbs. per day. without any silage fed.	Two-year old bullheads, dairy cows and young calves. Young calves eat as grass all winter about 40 lbs. each per day, which they eat with oats and did well on it.	The stack was covered with John's system from grass. About 4 inches of the sides and top with it. The rest of the stack was a good dry grass crop, and was good to it in two-year old bullheads, without any other feeding. They did well on it and turned up in good good condition in the spring. Dairy cows were fed on the ensilage with an addition of hay. They milked well and were in good condition. Young calves were fed on the ensilage, and did well. I weighed all the grass put in stack, via. 10 tons; and weighed all the ensilage from the stack, which was 10 tons.
4 weeks.	Unfed grass and paddy grass.	100 degrees, F.	100 degrees, F.	As much as the cattle can eat.	Milch cows and store cattle.	Have been making stacks for 40 years, and my stack this year was nearly perfect, the best I have made.
After 10 days and then 10 days.	After grass of here and grass from provision.	100 degrees; the weather was wet.	—	—	—	I made this ensilage out of grass that by me would have been ma- lous as a substitute, and to make my place of about 10 tons of silage and 10 tons. There are about 10 tons of grass left for hay; the rest garden and shrubs, I have not used it for years, but I believe that it is as good as it was any day. I would give it to my cows early from the ditch for my own making and feeding out with it, as under these circumstances, I found the milk got better. I have not doubt that in a large place where there is a lot of waste grass under trees it would pay to make it into ensilage for store cattle, &c.
From 2 to 10 days each.	No. 1 GRASS from land improved for grazing, then fed for 10 days. By 2, grass, after 27.5 lbs. of maize.	No particular record kept, as temperature got so high I thought it to stack was spoiled.	—	About 10 lbs.	Milch cattle and young stock.	First stack, built in beginning of June, turned out well, and was much valued by cattle. Second stack, built in October, not so good, owing to grass having got too old before being cut.
Part of the part, 10 days, part of 2 days.	Partly was hay, after- noon.	Took no note, and used no thermometer. From former experience one will use to supply more or less of water.	—	10 lbs.	Cattle only.	Have not noticed much ensilage but except as formerly, being able to take advantage of the little good weather we had for grazing, and to make it to make the stack. What we have this year in the stack we have put in, and the cattle do not have a trace of it, particularly what I call the weather.

Name and Residence.	No. of Sites.	No. of Stacks.	Dimensions of Site—Length, Breadth, Depth.	Materials at Site.			Whether Drained or not.	Situation. "Partly Below," or "Above" Surface.	The Building here made without a plan, and how?
				Walls.	Floors.	Roof.			
SOMERSET COUNTY.									
Gen. M. Harvey, Esq., J.P., Bland.	-	1	-	-	-	-	-	-	-
Major Jas. Hamilton, Esq., Brown Hall, Bland.	-	4	-	-	-	-	-	-	In four stacks, each by 12 feet, 12 feet deep, 12 feet by 12 feet, 12 feet deep, 12

GLSTER—continued.

Number of days occupied in silaging or making stack.	Material put in Bin or Stack.	Temperature.		Quantity of Forage (in tons) given to cattle per day.	To what description of Cattle, & to how many.	Remarks.
		Quickest Heat.	Average Heat for first 10 days.			
Three days.	Grass from pastures.	—	Unknown.	Unknown.	Four milk cows.	Having been from home after silo stack was commenced, I am unable to report No. 1 or 2. The stack was made in feet by 10 feet, and about 2 tons of pressure put on, viz. by board stones and such. The stack, when cut, was about 4 feet in height and perfectly good silo, except about 12 inches round outside.
—	Fresh cut grass, mostly in rain.	—	—	About 4 cwt. each milk cow in house.	All sorts of cattle. They prefer it to hay.	I started in silaging with was easily put up—say 12 feet—rolling with a parallel layer of water; also went to the end. Silo was wet between times. Excellent silo, but too much damage on sides. Short close grass, put in during rain, about the best.
About 6 days, one silo, filling each day.	Grass.	Not taken.	—	at 10.	Alderney milk cows only.	The ensilage particularly good this year. I have been making ensilage for about 50 years in this way, and find it a great success. I grow with sticks for weights, and feed very little loss just at the top.
About 1 week.	Old meadow grass.	120 degrees.	120-4 degrees.	All they will eat.	at 100 cwt. cows, and calves.	I consider ensilage invaluable for milk cows, particularly when there is a lot of coarse grass, such as what grows under trees, &c., and whenever the ensilage is finished the cows reduce very considerably in milk. I have not tried it yet on horses, but feel sure it would be useful.
About 10 days.	Dry meadow grass.	Not taken.	Not taken.	It went bad, and not used.	—	I believe, to be successful, the grass should be cut into silo or stack very green, very wet, and very heavily pressed. My grass was too dry, and no pressure applied; the result was the silage was not fit to use.
—	Grass and clover cut green.	Not registered.	—	10 to 40 lbs.	Milk cattle, including calves, sheep, and horses.	The silo makes a specially good silage, particularly suitable for both cattle and sheep. Only stack was built at these times. First, grass, second, clover, third, but not ripe, mixed with clover, third, plantain, grass and green cut-off clover. The last building was made full in the centre, to an extent that when opened left centre cattle a foot higher than sides, thus giving sufficient fall to carry off rain.
—	—	—	—	—	—	Silo and contents fully described in Agricultural Magazine for 1866. The ensilage, made as then described in May and June of that year, remained undisturbed till November, 1866, when silo was opened. Contents excellent, but badly pressed. About 10 lbs. a day per head given to 2 milk cows. Some given to horses. Silage finished in February, 1867. No silage made in summer of 1866.
Two or three silages.	Grass.	—	—	Feed mostly in the fields. A large number of cattle help themselves.	Horses and a few cows and calves.	All sorts of silage are only separated by a passage, and are under the same roof. I find cows waste in the smaller one than the larger. It is more shaded by trees, but probably the larger one is more effectively trampled than the smaller one. I find the ensilage invaluable.
4 days in each case.	Grass cut from mowing land of a coarse description.	I have no instrument to test the heat.	—	Cattle would eat any quantity of it. I don't know exactly the quantity given.	All description of horses and calves we give it to from six weeks old and upwards.	In making ensilage I approve of the round stack system. The method does not crush the stack, the whole way, consequently the pressure comes more evenly at the bulk of the stack, but in the square stack the heavier does not sink so far down which gives less the building. The system has good use. It is a stir that more farmers adopt than the previous. Not to make a false promise to make perfect. The whole object is to make the silage fine, and put on plenty of weight, and then you can't go wrong in building an ensilage stack.
About 4 days.	Low grass and clover mown and pressed in place.	No means.	of testing.	Not weighed.	Cows and store stock.	Began using it last week. Not much waste on top, but from 12 to 14 inches of sides and ends almost rotten; within cut the remainder is in goodly. But horses don't appear to care for it.

Name and Residence.	No. of Stems.	No. of Stacks.	Dimensions of Stems—Length, Breadth, Depth.	Materials of Stem.			Whether Detached or not.	Position—“Lower,” “Party,” “Upper,” or “Other” Surface.	Has the Plant been made up into a Stem and how?
				Walls.	Floor.	Roof.			
LONDONERRY COUNTY—continued.									
R. A. Ogilby, Esq., B.L., Fitzroy Place, Four- gates.	1	—	10 feet by 12 feet; 12 feet deep.	Strick.	Earth floor.	None.	No.	Below.	No.
James Dunn, Esq., Warwick, Bally- rath.	1	—	20 feet by 18 feet; 18 feet deep.	Stone and lime, plastered with mortar.	Good, firm and dry.	No roof.	No.	On side of ditch, grass, very level with surface and floor; about level of bottom of ditch.	No; not this year.
J. E. Wilson, Esq., J.P., Rath Park, Limerick p.	—	1	—	—	—	—	—	—	The green, in, study was cut and weighed with water to stone.
Jos. Hastings, Esq., Dromagh, Limerick p.	—	1	—	—	—	—	—	—	Both in length and breadth same as last year, then put in boards when the land is about the ditch; then every winter the soil is cut down one foot in every square foot on top of ditch. When building deep cattle are kept.
Gen. H. Moody, Esq., for Mrs. Jane Moore, Rath Park, Limerick p.	1	2	(1) 20 feet by 12 feet; 4 feet deep. (2) 18 feet by 12 feet; 7 feet deep. (3) 18 feet by 12 feet; 10 feet deep. (4) 12 feet by 12 feet; 10 feet deep. (5) 12 feet by 12 feet; 7 feet deep.	Strick.	Grass.	Weighted with stones on boards.	No.	Above.	We have made out- ings for the last 4 years in every square ground with stones. This last year we took a lot, which proved most successful, being of excellent quality, and very high yield.
Genl. Shannon, Esq., Cullinstown, Rathfriland, Limerick p.	—	2	—	—	—	—	—	—	Two in two stacks. One stack was 12 feet by 12 feet by 12 feet; the other 12 feet square by 12 feet.
J. Jackson Clark, Esq., p.L., Lurganagh, Maynooth.	2	2	No. 1—20 feet by 20 feet; 12 feet deep. No. 2—24 feet by 20 feet; 12 feet deep.	Timber.	Grass.	None.	No.	On the side of a hill.	In these stacks No. 1 is 12 feet by 12 feet by 12 feet, and No. 2 is 24 feet by 20 feet by 12 feet. The lowest part of the No. 1 stack is about 10 feet deep, and a fewer squares in the No. 2 stack. I weighed with stones and sawdust, using 1 cwt to the square foot.
Michael King, Esq., Bryansford, Limerick p.	1	—	10 feet by 12 feet; 7 feet deep.	Strick.	Earth.	Stones and thatch.	No.	Enclosed in three sides with earth.	No.
MORRISON COUNTY.									
Chas. H. Tisdall, Esq., J.P., Clonsilla.	—	1	—	—	—	—	—	—	In a round stack 12 feet in diameter and 10 feet high, made on the ground in the largest of inferior meadow land, grass, and straw, and when the water was cut in the winter of 1889, the stack was put up, weighing 2 cwt. The stack was put up, and weighed with stones, the same as the other stack. The stack was put up in 1889, and was about 12 feet high and 12 feet wide.

ULSTER—continued.

Number of days required to fill the silage stack.	Materials put in the silage stack.	Temperatures.		Quantity of ensilage in the silage stack per acre.	To what description of cattle, & to how many acres, and how much.	Remarks.
		Outside.	Average inside for 24 hours.			
7 days.	Second cutting straw and green.	120 degrees.	100 degrees.	About 20 tons.	Young stock.	Cost of silage about 4s. We had all cattle and sheep and ensilage and are very partial to it.
About 14 days with 100 tons of straw and 100 tons of green.	Second cutting straw and green.	Did not take.	100 degrees.	Cannot say how much to each acre, as each was not fed up; but as grass is dry would take, getting straw or hay instead.	Store cattle.	Cows were grazed by silage and when finished weighed with heads and horns; quality good, and cattle eat it freely. A feed of stock built over the silage appears to be quite unnecessary.
Unmaterial.	Any cutting green crop of green.	—	—	—	All descriptions of cattle.	Only one stack made in 1891, about 110 tons. Two stacks left over from 1890, got very dry and good as when made a few months. I consider it an admirable food for all classes of stock on any farm, especially a large one.
From 10 to 12 days.	Green, or any kind of green grass.	120 degrees.	From 10 to 120 degrees.	From 24 to 30 tons.	—	I have had silage constructed in many different ways, but I find that there is no more waste in a stack than in a shed, if properly built. The stack should be hollow in the centre, and high round outside, and the greatest weight put upon the outside; the more weight the better.
From 2 to 3 days.	Second cutting straw and green.	120 degrees.	120 degrees.	From 24 to 30 tons.	Store cattle, especially oxen. Also sheep.	I think in future we shall make our silage in pits, one sub-silage being as well adapted—being a sharp, hard silage—the expense is at much less. High feeding is done away with. There is no waste to keep cattle—there is no more loss when the feeding begins—and they are so much easier weighed, and when properly treated, less waste on outside.
4 days.	Second cutting green.	—	—	I do not weigh it.	To supplying cattle and horses in the sheds. On a large estate feed once a day in square holes, stores in sheds as much as they can eat.	I considered it very good food. I would not take the trouble of making this hay as any other. I admit I have no much waste in this silage. But I know nothing about it. I find from experience to finish the stacks often more, being far more solid, and weighing it thoroughly, one stack full to make a good stack.
Has 1 and 2 was put up on two consecutive days, but not weighing it at 24 hours after, to let the horses. No. 2 was put up in fairly wet weather, and lost, in consequence, a day longer.	Old meadow, which would have yielded about 10 tons of silage.	120 degrees.	In my opinion the right time is 120 degrees.	As much as they can eat, unless they become too loose. This happens if you give too much along with it.	To cattle of all kinds, but especially horses.	The ensilage all through was excellent. I don't think the number of days filling the silage matters. It took me a fortnight to fill the silage and the ensilage seemed very little different from that made by another silage. We were covered in all cases to keep the heat as near 120 degrees as possible. This was easily done by means of a pit, which, we think, is not required if the ensilage is finished off at once, the depth of stacking then regulating the heat.
—	Grass.	120 degrees.	From 120 to 120 degrees.	From 24 to 30 tons.	Store cattle.	The brick walls forming the sides of the silage are levelled to the height of seven feet, and perpendicular walls, four feet high, raised on them, making the entire height seven feet, the upper four feet being for the purpose of preventing the grass from spreading when weight applied.
One or two days a week as necessary to be refilled.	Second cutting green.	120 degrees.	120 degrees.	From 24 to 30 tons.	Store cattle.	The cattle eat it greedily, and are in good condition; this grass was lately used for silage.

Name and Residence.	No. of Stacks.	No. of Stacks.	Dimensions of Stacks—Length, Breadth, Depth.	Materials of Stacks.			Whether Drained or not.	Attention—“Fallow,” “Furrow,” “Mow,” or “Above” Surface.	The Earliest time made within the No. 1000.
				Walls.	Floor.	Roof.			
TYNARH COUNTY.									
Rev. T. O. Forbes, Archbishop.	—	1	—	—	—	—	—	—	—
M. J. Fisher, Esq., A.D., Archbishop.	—	1	—	—	—	—	—	—	Built in form of stack with covering of old hay, 12 feet square.
Thomas A. Forbes, Esq., A.D., Clonmel, Tyrone.	1	4	10 feet by 12 feet; 14 feet deep.	Stone with cement lining.	Cement.	Wood.	No.	Partly below.	In round stacks covered with about 12 feet thickness of hay.
James K. Johnston, Esq., A.D., Clonmel, Tyrone.	—	9	—	—	—	—	—	—	In a stack in open meadow, 12 feet square; sides lined closely; grass well mown, and the only pressure during process being one hand and one weaver; finished with one foot of hay, and a stack of hay on top of it.
Col. J. O. Lewis, M.A., Ardara, Enniskillen.	1	—	12 feet by 12 feet; 8 feet deep.	Stone cemented.	Brick.	Shed.	No.	Abandoned.	—
Mr. Wm. Whitfield, Land Manager, for the Duke, near the Earl of Clarendon, Banbridge, May.	—	1	—	—	—	—	—	—	In a stack, 10 feet by 12 feet, 12 feet deep, by using three pairs of “planks” and Larch timbers, the bottom of the stack space I have now shown, and on which the hay was laid good sweet reeds. When stack was built I placed poles across and topped with straw. What was cut off in stack was under possible stack was built in the open.
James Brown, Esq., A.D., Dungannon, Tyrone.	—	1	—	—	—	—	—	—	In a stack, 10 feet by 12 feet, 12 feet deep, by using three pairs of “planks” and Larch timbers, the bottom of the stack space I have now shown, and on which the hay was laid good sweet reeds. When stack was built I placed poles across and topped with straw. What was cut off in stack was under possible stack was built in the open.
W. MacCall, Esq., M.A., Banbridge, May.	—	1	—	—	—	—	—	—	In stacks—No. 1, 10 feet by 12 feet, 12 feet deep; No. 2, 12 feet by 12 feet, 12 feet deep; No. 3, 12 feet by 12 feet, 12 feet deep. The stacks were made of reeds, and the hay was laid on the reeds. The stacks were made of reeds, and the hay was laid on the reeds. The stacks were made of reeds, and the hay was laid on the reeds.

PROVINCE OF _____

Name and Residence.	No. of Sites.	No. of Animals.	Dimensions of Site—Length, Breadth, Depth.	Materials of Site.			Whether Drained or not.	Winds—S. E. or N. W. or other.	How the Animals were made to winter a site, and how?
				Walls.	Floor.	Roof.			
GALWAY COUNTY.									
Mr. G. Armstrong, Rice, Agent for Rev. Dr. W. Ross Mahon, Port, Co. Sligo, Armagh.	-	1	-	-	-	-	-	-	Top in circular state at foot is diameter. Grass in the hole was piled up and was fed up to it at about 12 in. high; then a top of earth put on.
John Girdner, Esq., Lough, Tyrone.	1	-	20 feet by 15 feet, by 12 feet.	Stone somewhat.	Concrete.	None.	Not.	East above and the low the site.	Grass made a low the site.
Mr. Robert Egan, Esq., the Right Hon. Lord Clonmore, Clon- more, Armagh.	1	2	20 feet by 12 feet, by 12 feet.	Stone plastered with cement.	Concrete.	Galvanized iron.	Not drained.	Above.	Top in round state. Grass in the hole was piled up and was fed up to it at about 12 in. high; then a top of earth put on.
Mr. J. McKay, Frymish, Frymish, McKay & Co. Ltd., Belfast, Lond. E.C.	-	1	20 feet by 8 feet above level.	-	-	-	-	-	Grass without a site in the open field is a heavy crop of grass, 20 feet in di- ameter, 2 inches thick, by the water. It was over it with the loaded state of mud, all about 12 feet above level, at the bottom of the hole, adding as much to it each day for days, then covering it with a layer of mud, 2 feet deep, then a layer of grass, then pulling the water across from the building a creek of hay and straw to about 12 in. of water and 1 foot of hay over mud.
Mr. Stephen Hughes, Barnard to V. & C. Cough, Lond. E.C.	-	2	-	-	-	-	-	-	In 2 stacks of the following dimensions—(1) 20 by 12 by 12 feet; (2) 20 by 12 by 12 feet; (3) 20 by 12 by 12 feet; (4) 20 by 12 by 12 feet; (5) 20 by 12 by 12 feet; (6) 20 by 12 by 12 feet; (7) 20 by 12 by 12 feet; (8) 20 by 12 by 12 feet; (9) 20 by 12 by 12 feet; (10) 20 by 12 by 12 feet; (11) 20 by 12 by 12 feet; (12) 20 by 12 by 12 feet; (13) 20 by 12 by 12 feet; (14) 20 by 12 by 12 feet; (15) 20 by 12 by 12 feet; (16) 20 by 12 by 12 feet; (17) 20 by 12 by 12 feet; (18) 20 by 12 by 12 feet; (19) 20 by 12 by 12 feet; (20) 20 by 12 by 12 feet; (21) 20 by 12 by 12 feet; (22) 20 by 12 by 12 feet; (23) 20 by 12 by 12 feet; (24) 20 by 12 by 12 feet; (25) 20 by 12 by 12 feet; (26) 20 by 12 by 12 feet; (27) 20 by 12 by 12 feet; (28) 20 by 12 by 12 feet; (29) 20 by 12 by 12 feet; (30) 20 by 12 by 12 feet; (31) 20 by 12 by 12 feet; (32) 20 by 12 by 12 feet; (33) 20 by 12 by 12 feet; (34) 20 by 12 by 12 feet; (35) 20 by 12 by 12 feet; (36) 20 by 12 by 12 feet; (37) 20 by 12 by 12 feet; (38) 20 by 12 by 12 feet; (39) 20 by 12 by 12 feet; (40) 20 by 12 by 12 feet; (41) 20 by 12 by 12 feet; (42) 20 by 12 by 12 feet; (43) 20 by 12 by 12 feet; (44) 20 by 12 by 12 feet; (45) 20 by 12 by 12 feet; (46) 20 by 12 by 12 feet; (47) 20 by 12 by 12 feet; (48) 20 by 12 by 12 feet; (49) 20 by 12 by 12 feet; (50) 20 by 12 by 12 feet; (51) 20 by 12 by 12 feet; (52) 20 by 12 by 12 feet; (53) 20 by 12 by 12 feet; (54) 20 by 12 by 12 feet; (55) 20 by 12 by 12 feet; (56) 20 by 12 by 12 feet; (57) 20 by 12 by 12 feet; (58) 20 by 12 by 12 feet; (59) 20 by 12 by 12 feet; (60) 20 by 12 by 12 feet; (61) 20 by 12 by 12 feet; (62) 20 by 12 by 12 feet; (63) 20 by 12 by 12 feet; (64) 20 by 12 by 12 feet; (65) 20 by 12 by 12 feet; (66) 20 by 12 by 12 feet; (67) 20 by 12 by 12 feet; (68) 20 by 12 by 12 feet; (69) 20 by 12 by 12 feet; (70) 20 by 12 by 12 feet; (71) 20 by 12 by 12 feet; (72) 20 by 12 by 12 feet; (73) 20 by 12 by 12 feet; (74) 20 by 12 by 12 feet; (75) 20 by 12 by 12 feet; (76) 20 by 12 by 12 feet; (77) 20 by 12 by 12 feet; (78) 20 by 12 by 12 feet; (79) 20 by 12 by 12 feet; (80) 20 by 12 by 12 feet; (81) 20 by 12 by 12 feet; (82) 20 by 12 by 12 feet; (83) 20 by 12 by 12 feet; (84) 20 by 12 by 12 feet; (85) 20 by 12 by 12 feet; (86) 20 by 12 by 12 feet; (87) 20 by 12 by 12 feet; (88) 20 by 12 by 12 feet; (89) 20 by 12 by 12 feet; (90) 20 by 12 by 12 feet; (91) 20 by 12 by 12 feet; (92) 20 by 12 by 12 feet; (93) 20 by 12 by 12 feet; (94) 20 by 12 by 12 feet; (95) 20 by 12 by 12 feet; (96) 20 by 12 by 12 feet; (97) 20 by 12 by 12 feet; (98) 20 by 12 by 12 feet; (99) 20 by 12 by 12 feet; (100) 20 by 12 by 12 feet; (101) 20 by 12 by 12 feet; (102) 20 by 12 by 12 feet; (103) 20 by 12 by 12 feet; (104) 20 by 12 by 12 feet; (105) 20 by 12 by 12 feet; (106) 20 by 12 by 12 feet; (107) 20 by 12 by 12 feet; (108) 20 by 12 by 12 feet; (109) 20 by 12 by 12 feet; (110) 20 by 12 by 12 feet; (111) 20 by 12 by 12 feet; (112) 20 by 12 by 12 feet; (113) 20 by 12 by 12 feet; (114) 20 by 12 by 12 feet; (115) 20 by 12 by 12 feet; (116) 20 by 12 by 12 feet; (117) 20 by 12 by 12 feet; (118) 20 by 12 by 12 feet; (119) 20 by 12 by 12 feet; (120) 20 by 12 by 12 feet; (121) 20 by 12 by 12 feet; (122) 20 by 12 by 12 feet; (123) 20 by 12 by 12 feet; (124) 20 by 12 by 12 feet; (125) 20 by 12 by 12 feet; (126) 20 by 12 by 12 feet; (127) 20 by 12 by 12 feet; (128) 20 by 12 by 12 feet; (129) 20 by 12 by 12 feet; (130) 20 by 12 by 12 feet; (131) 20 by 12 by 12 feet; (132) 20 by 12 by 12 feet; (133) 20 by 12 by 12 feet; (134) 20 by 12 by 12 feet; (135) 20 by 12 by 12 feet; (136) 20 by 12 by 12 feet; (137) 20 by 12 by 12 feet; (138) 20 by 12 by 12 feet; (139) 20 by 12 by 12 feet; (140) 20 by 12 by 12 feet; (141) 20 by 12 by 12 feet; (142) 20 by 12 by 12 feet; (143) 20 by 12 by 12 feet; (144) 20 by 12 by 12 feet; (145) 20 by 12 by 12 feet; (146) 20 by 12 by 12 feet; (147) 20 by 12 by 12 feet; (148) 20 by 12 by 12 feet; (149) 20 by 12 by 12 feet; (150) 20 by 12 by 12 feet; (151) 20 by 12 by 12 feet; (152) 20 by

CONNAUGHT.

Number of days occupied in making the ensilage stack.	Materials put in pile or stack.	Temperature.		Quantity of ensilage in the given or other period.	To what description of cattle; if to horses, state so, and how much.	Remarks.
		Greatest heat.	Average heat for five to ten days.			
About 21 days.	Green.	—	—	About 8 tons.	Two and a half year old before cut at doors.	The silage was made late in autumn of coarse rough grass; the cows being driven upon the site, pressed in well. It was covered with about twelve inches of earth. Cut in February, 1861. Fed about 120 horses. About 100 cart-loads each evening. Cattle got hay each morning.
10 days.	Old meadow grass.	—	Constantly.	80 to 40 lbs. along with a following of hay.	Steeple cattle, not known.	Have found that the making of ensilage, even in stacks on the soil, shows experience that the making of hay, if unduly late, is weaker to get for making it, and it is better to cut out in winter to store better when the land is wet and sun.
12 days at intervals.	Old meadow grass.	—	Not tried.	Given 40 lbs. more, 40 lbs.	All classes of cattle, and young horses at grass.	We consider it good feeding for all classes of stock.
—	Common old meadow hay.	No thermometer used.	No registry kept.	Given to horses, about one bushel each, daily.	—	This ensilage was used turned out quite green and with a very good flavour. Cattle eat it most eagerly; there was no waste as other horses or sheep, and only very little as cows when above the level of the pit.
From five to ten days, according to the seasons of cutting, &c.; about 12 to 15, per acre, to be the ordinary cost. I find one heap made on the side of the pit, and one kept separate, and one in the middle of it.	Old meadow grass, in summer with very rough grass, clover, or better.	—	No registry kept.	No weight or measure taken, but I estimate about 1 stone, with a little more, say at 12 lbs. and could make of large and small cuts in each milk cow.	Used as cattle of all ages; some quantity given as milk cows and without any other feed.	I consider a silo to be an invaluable appendage to all farms; all materials should be put into the silo while green and soft; when left to be overripe there is waste when feeding, and cattle do not thrive so well on it.
About 4 days in all.	Afternoon cut, in September.	—	I did not take the heat.	I did not weigh what I gave.	Given to milk cows.	The cows got a small quantity each night and seemed to like it, and eat it well.

Name and Residence.	No. of Sites.	No. of Sheds.	Dimensions of Sites—Length, Breadth, Depth.	Materials of Sites.			Weather Destroyed or not.	Situation: "Fairy Palace," or "Above" Surface.	Has Enclosure been made within 2 M. and how?
				Walls.	Floors.	Roof.			
GALWAY COUNTY—continued. R. W. Whitham, Esq., M.L. Moyne Park.	-	1	-	-	-	-	-	-	Circular stack, 20 feet diameter, 10 feet high.

CONNAUGHT—continued

[illegible]

Name and Residence.	No. of Mills.	No. of Stocks.	Dimensions of Mill—Length, Breadth, Depth.	Materials of Mill.			Whether Drained or not.	Structure: "Below," "Partly Below," or "Above" Surface.	Has the Stock been made with foundation, and how?
				Walls.	Floor.	Roof.			
GALWAY COUNTY—continued.									
R. W. Watkins, Esq., D.L.—con.	-	-	-	-	-	-	-	-	-
O. S. Miller, Esq., J.P. and D.L. Rossmore, Freshall, Team.	-	1	-	-	-	-	-	-	-
LEITRIM COUNTY.									
Michael Murphy, Esq., Glenties, Mullin.	-	1	-	-	-	-	-	-	It can be made with one side by putting the end in a ditch, and covering the stock with about 4 or 4 1/2 feet of hay.
J. Crosby Lawder, Esq., J.P., D.L., Glenties, Lawderston.	-	4	-	-	-	-	-	-	I made 4 stocks, of about 20 feet each in diameter in the fields in which the grass grew. The walls were all steadily high, so as to stand firm, about a foot wide, were pointed, and placed on top, and the sides dry and this and put on top to a depth of 12 inches, the tops down with sides of straw, and left so.
A. Godley, Esq., D.L., Millage, Kesh, Mullin.	-	1	-	-	-	-	-	-	Without a ditch, or other on ground, putting weight on it.
John S. Ellis, Esq., J.P., Warfordsburg.	1	1	21 feet by 16 feet, by 24 feet.	Stone and mortar.	Concrete.	-	Drained.	Above surface.	In stacks, covered with boards, and weighted with stones, 120 lbs. square foot.
Mr. George H. Johnson, Esq., J.P., Mount Prospect.	1	1	12-40 feet by 20 feet, by 20 feet, 8-12 feet by 18 feet, by 20 feet, 8-12 feet by 18 feet, by 20 feet.	Plastered and cemented. Do. No walls—in open.	Concrete. Do. Do.	Corrugated iron. Slated. Hay and straw.	- - -	Partly below, Do. Do.	No. 1 made in a ring from a hill to make other water it was better than for about a week. From 8 feet high the water in the water, about 6 ft. to the foot, and set to subside for 4 days; then removed in 20 days, and weighted for 8 days, and finally fixed to the foot.

CONNAUGHT—continued.

Number of days required to fill silo or making stock.	Materials put in silo or stock.	Temperature.		Quantity of feedings or hay given to cattle per day.	To what description of cattle; if to horses, state sex.	Remarks.
		Greatest heat.	Average heat for first 10 days.			
8 days.	Meadow off contained hay.	Did not take	temperatures.	Did not measure it.	Spent cattle, horse to horses.	The ensilage was remarkably good, cattle liked it and there on it. I think the hay would be the better for draught, and I intend to do so this season. I consider field silos better than those constructed within walls.
4 fortnight.	Grass of inferior quality.	Cannot say.	—	Cannot say.	Milk cows and young cattle of all ages on it readily, same to horses.	My ensilage was excellent as far as it went, but I have not arrived at any opinion as to its quality. The silage of the stock is perfectly sound, but the silage and top are not so good as usual. I have not fed a third part of it. I should wish to have conclusions on the subject.
About 10 days in silo.	Rough grass, and weeds, some of it cut.	Not observed.	—	About 10 lbs. each.	Dairy cows, milked, and calves.	An excellent system, particularly well suited to the wet and mountainous character of this country. It requires no expensive apparatus, but comes within the reach of the poorest farmer, and enables him to provide an abundant supply of winter food for cattle out of materials that would otherwise go to loss, or be put to other uses.
About 12 days in silo.	Old meadow and horse pasture.	No record.	—	About 10 lbs. each.	Dairy cows, milked, and calves.	My system remains unchanged as to the quantity of ensilage for each acre, but the quality is better, and being able to turn into food what would otherwise be wasted. Cattle of all classes prefer it to hay, and thrive well on it.
10 days in silo.	Clean grass.	Not known.	—	10 lbs. to each head per day.	1 and 2 year old calves, and heifers, not to horses.	The ensilage is very good and cattle eat it very freely.
—	Grass.	Not tested.	—	Not tested.	Cows.	Not a success the last year; much waste owing to compensating for increasing quantity and quality of crops and losses.
Thirty days.	Grass and rye and oats, and green.	340 degrees.	—	10 lbs. each head.	Milk cows, calves, and young cattle.	Am more than ever impressed with the expediency of silos over stacks; stacks are only useful when silos are considerable.
—	A small quantity of crinkly hay, very dry was put in the silo, all the rest grass.	Exposure account of the hay.	—	Tested experimentally.	To prove and confirm more stock.	As mentioned before, I tried an experiment this year with crinkly hay. When my silo was filled up to about the height of 10 feet, I put in twelve bags of crinkly hay, leaving it well in the centre of the silo, with general wind. I then filled it with grass over this, and when it was filled on again in the usual way. When coming out the ensilage was completely sound without any waste. I had much to write about a notice of the bottom of silo.
About 7 or 8 weeks.	Meadow grass, cut, and lying for one or two days.	None observed.	—	About 10 lbs. in two days.	Cut-fed heifers and calves, aged 14 to 2 years, and two horses fed with the silage.	—

Name and Residence.	No. of Hives.	No. of Bees.	Dimensions of Hive—Length, Breadth, Depth.	Materials of Hive.			Whether Destroyed or not.	Situation, "Below Surface," or "Above Surface."	How Entrances kept, made, with what, and how?
				Walls.	Floor.	Roof.			
ROSCOMMON COUNTY—continued.									
James Kelly, Esq., J.P., Johnstown, Athlone.	—	1	—	—	—	—	—	—	Simply by stacking the grass in tall, without a side, to a height of about 3 feet, and after 4 days, until coming to the original height. Another 3 or 4 feet of grass was added in my absence. In 10 days it was about like a top pile, as the outside could not be sufficiently weighted, and consequently a waste occurred.
H. G. Armstrong, Esq., Castlebar, Athlone.	—	1	—	—	—	—	—	—	We mark a circle 10 feet in diameter, cut the grass to 4 inches, and make a plugway of grass, from the outside up to the middle of the circle. When finished, cover with 1 foot of clay.
SLIGO COUNTY.									
John L. Bradley, Esq., J.P., Farnham, Sligo.	—	1	—	None.	None.	None.	None.	Above surface.	In stack, 10 feet by 10 feet, 4 feet in height. I have made stacks during the last 4 years, including 1889. The grass was cut and stacked in the field where cut, well shaken, and put on as quickly as convenient. After the stack is done and made a little time finished it was covered with straw and, every day all round me so to have a trench.

CONNAUGHT—continued.

Number of days occupied in silage for making each.	Material put in silo or stack.	Temperature.		Quantity of silage & molasses given to cattle per day.	To what description of cattle; if to horses state so, and how much.	Remarks.
		Open air.	Average heat for 24 to 48 hrs.			
—	—	—	—	—	Two and a half years old colts, and two horses.	Ensilage, if properly put together with the hay in the grass, and sufficiently weighed with hay (say 10 lbs. to the horse) is excellent feeding, with a little hay, for milking cattle up to end of January, when it begins to decay, and is not so valued by cattle or horses. Last year my silo was very good when properly weighed.
120016.	Colt's meadow grass.	—	—	—	Some cutting collected for use in the morning, silage in the evening, and said, April 1876, for 67 each.	The stack is as above described. The drying of the hay upon the stack, keeping the weather clear to assist in the point, as the silage weighs against the wind. We never with such, and have it in January. Hay in the morning, silage in the evening, is best feeding.
401009.	Brack grass.	I take no time in silaging the simplest way, but much	temperatures, and the work is a little more extraordinary in.	Depends entirely on weather, and state of land as to horses, or otherwise, and quality of silage.	Principally in cattle, a little to cows with some sheep. Horses prefer it.	The cost of making silage in the foregoing simple way, making it whole cut, and dried in the sun is quite cheaper than it can be made by any other than the use of making hay in fine weather, so that I cannot see how a silo of grass could possibly be profitable. I think silage may be profitably made, as described, only in summer on rough land, which may be cleared from silage in June. The silage so made is, in my opinion, superior to the grass resulting from letting it stay on the ground for winter use.

THE WEATHER.

Abstract of Meteorological Observations registered at the Ordnance Survey Office (Height above the Sea 162.2 Feet) Phoenix Park, Dublin, during the year 1890:—

The barometer stood highest in 1890, on the 23rd February, at 9 p.m., wind N.E., when it was 30.759 inches; it was lowest at 9 a.m. on 6th November, when it was 29.777 inches. The highest temperature of the air during the year was 74.0 degrees of Fahrenheit on 4th August, and the lowest 16.7 degrees on 21st December. The greatest quantity of rain which fell in a day (24 hours) was .046 inch on 21st August, with wind W. The point from which the wind chiefly prevailed was the W.; it blew from that direction on 118 days, at 9 a.m. The strongest wind was from the S. on the 30th November, when the pressure was 4.10 lbs. per square foot.

1890.	BAROMETER.										TEMPERATURE.									
	Corrected for Altitude and reduced to 32° Fah.										Self-registering Thermometers.									
	Mean.										Foil-encasing Thermometers.					Hygrometers.				
	A.M.	P.M.	Mean.	Range.	Highest in Month.	Lowest in Month.	Range.	Highest in Month.	Lowest in Month.	Range.	Mean.	Of all Highest.	Of all Lowest.	Range.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
January.	30.769	30.740	30.755	1.024	30.891	30.612	1.279	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
February.	30.723	30.710	30.717	1.023	30.838	30.596	1.242	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
March.	30.811	30.803	30.807	1.024	30.938	30.676	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
April.	30.838	30.830	30.834	1.024	30.965	30.703	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
May.	30.914	30.912	30.913	1.024	31.040	30.778	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
June.	30.961	30.959	30.960	1.024	31.087	30.825	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
July.	30.981	30.979	30.980	1.024	31.107	30.845	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
August.	30.981	30.979	30.980	1.024	31.107	30.845	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
September.	30.981	30.979	30.980	1.024	31.107	30.845	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
October.	30.981	30.979	30.980	1.024	31.107	30.845	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
November.	30.981	30.979	30.980	1.024	31.107	30.845	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
December.	30.981	30.979	30.980	1.024	31.107	30.845	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
Total.	30.787	30.784	30.786	1.024	30.917	30.655	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
Mean.	30.788	30.784	30.786	1.024	30.917	30.655	1.262	44.9	36.4	8.5	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1

1890.	WIND.										WIND.									
	Number of days it blew in certain directions at 9 a.m. and the total pressure in lbs. per square foot.										Number of days it blew in certain directions at 9 a.m. and the total pressure in lbs. per square foot.									
	WIND.										WIND.									
	N.	N.E.	E.	S.E.	S.	S.W.	W.	W.N.W.	N.W.	N.	N.E.	E.	S.E.	S.	S.W.	W.	W.N.W.	N.W.	N.	N.E.
January.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
February.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
March.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
April.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
May.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
June.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
July.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
August.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
September.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
October.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
November.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
December.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Total.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mean.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

METEOROLOGICAL OBSERVATIONS

FOR EACH MONTH OF THE YEAR 1890.

By J. W. MOORE, Esq., M.D., F.R.C.P., F.R. MET. SOC.

(Extracted from the *Dublin Journal of Medical Science*.)

JANUARY.—January, 1890, proved a tempestuous, mild and rainy month. Rough southerly to westerly winds blew with little intermission, and frequently freshened into strong or violent gales, especially in the west of Ireland. Even in Dublin, eleven gales were recorded, some of them being downright tempests. Almost throughout the month atmospheric pressure was low over the Atlantic Ocean in the W., N.W., and N., high over central and southern Europe. On several occasions thunder and lightning accompanied the storms.

In Dublin the mean temperature (44.5°) was much above the average (41.4°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 44.1° . In the twenty-five years ending with 1889, January was coldest in 1881 (M. T. = 38.2°), and warmest in 1875 (M. T. = 46.6°). In 1867 the M. T. was 35.7° , and in 1886 it was 37.9° . In 1871 and in 1880 the M. T. was 37.9° ; in the year 1879 (the "cold year") it was 35.3° . In 1888, the M. T. was 42.1° , and in 1889 it was 42.4° . As a general rule, January in Dublin is not colder, but rather a shade warmer, than December. This is owing to the full development in January of a winter area of low pressure over the Atlantic, to the north-westward of the British Isles, and to a resulting prevalence of S.W. winds in their vicinity. January, 1889, proved no exception to this rule, the M. T. being 0.7° above that of December, 1889, (43.8°).

The mean height of the barometer was 29.740 inches, or 0.141 inch below the average value for January—namely, 29.881 inches, and as much as 0.410 inch below the mean for January, 1889—namely, 30.150 inches. The mercury rose to 30.450 inches at 4 p.m. of the 29th, and fell to 28.693 inches at 7.45 a.m. of the 23rd. It had been lower in the early morning hours. The observed range of atmospheric pressure was, therefore, as much as 1.757 inches—that is, a little over one inch and three-quarters. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 44.1° , or 0.8° above the value for December, 1889. Using the formula, Mean Temp. = min. + (max.—min. $\times .32$), the value becomes 44.7° , compared with a twenty-five years' average, 41.6° . The arithmetical mean of the maximal and minimal readings was 44.5° , compared with a 25 years' average of 41.4° . On the 16th the thermometer in the screen rose to 55.8° —wind, S.S.W.; on the 29th the temperature fell to 31.1° —wind W.N.W. The minimum on the grass was 24.9° on the same date. The rainfall was 2.975 inches, distributed over 21 days. The average rainfall for January in the twenty-five years, 1865–89, inclusive, was 2.209 inches, and the average number of rainy days was 17.3. The rainfall and the rainy days, therefore, were both considerably above the average. In 1877 the rainfall in January was very large—4.322 inches on 25 days; in 1869, also 4.258 inches fell—on, however, only 18 days. On the other hand, in 1876, only .406 of an inch was measured on but 9 days; and in 1880, the rainfall was only .303 of an inch on but 8 days. In January, 1886, 3.244 inches of rain were measured on as many as 26 days, in 1867 ("the dry year"), 1.816 inches fell on 16 days, in 1888 1.297 inches on 9 days, and in 1889, 2.213 inches on 16 days.

A solar halo was seen on the 29th. Lunar halos were seen on the 7th and 27th. The atmosphere was foggy on each of the first two days, as also on the 27th. High winds were noted on 21 days, reaching the force of a gale on eleven days. Hail fell on the 18th, 19th, and 23rd, and snow or sleet on the 19th, 20th, 22nd, 23rd, and 28th. Temperature exceeded 50° in the screen on 17 days, compared with 8 days in January, 1889; while it fell to or below 32° in the screen on only 1 night, compared with 3 nights in January, 1889. The minima on the grass were 32° , or less, on 15 nights, compared with 16 nights in January, 1889.

At the beginning of the month changeable, but for the most part mild, weather held in Ireland and Scotland, while severe cold was experienced in central and eastern England, where also fogs of great density prevailed. These conditions were determined by the persistence of an anticyclone over Germany, France, and England, whereas pressure was relatively low over the Atlantic to the westward and northward of the British Islands. In Dublin the weather was generally fine—calm and fog alternating with clouds and squalls from S.W. Temperature was very unsteady in Dublin, which was on the borderland between the low anticyclonic temperatures of England and the high temperatures of the Atlantic seaboard.

The week ending Saturday, the 11th, was one of stormy, open weather, with frequent falls of rain, which, however, were not heavy on the east coast of Ireland. In Dublin the mean temperature was 8° above the average. All through, an oval anticyclone held over France and Germany—the barometer rising to 30.75 inches at Munich at 8 a.m. of Tuesday, the 7th—while a series of extensive and deep depressions skirted the western and northern coasts of Ireland and Scotland on their passage north-eastwards. The week opened with a violent S.W. gale, which was accompanied with severe and fatal thunderstorms in the southwest and west of Ireland. At 8 a.m. of Sunday pressure varied from 29.73 inches at Stormoway, in the Hebrides, to 30.35 inches at Munich. On Tuesday temperature rose to 56° or 57° at many stations in the United Kingdom. In Dublin the mean height of the barometer during the week was 29.670 inches. The mean temperature was 48.4° . Rain was measured on six days, the total quantity being .262 inch.

Stormy, unsettled weather, and high but variable temperatures prevailed throughout the week ending Saturday, the 18th. The barometer was continuously high over the Peninsula and Central Europe, very low over the Atlantic and Norwegian Sea, and most unsteady in the British Islands.

and Scandinavia. The result was that strong south-westerly gales raged from time to time on the British coasts. The storms culminated in a tempest on Friday night and Saturday morning. On Saturday afternoon also a violent S.W. gale prevailed, accompanied by driving showers of rain and hail, and by flashes of sheet lightning after dark. On Thursday the air was soft and balmy as in late spring—the maximal temperature being 50·6° and the minimal temperature being 50·3°. In Dublin the mean height of the barometer was 29·787 inches. The mean temperature was as high as 48·6°. The rainfall was distributed over four days and amounted to 4·39 inch. Hail fell on Saturday, on the evening of which day also lightning was seen.

The period ending Saturday, the 25th, was most unsettled, stormy, rough and wet. Temperature was much lower than in the two preceding weeks, but it was very unsteady. A number of extensive and deep atmospheric depressions passed across north-western Europe during the week, causing violent gales, thunderstorms, and heavy falls of rain and sleet. Of these disturbances, the deepest was that of Sunday, January 19, at 8 a.m., of which day pressure varied from 30·37 inches at Lisbon to 28·23 inches at Stormovoy, in the Hebrides. At 9·30 a.m. a violent hailstorm occurred in Dublin, and during the day thunder and lightning prevailed in Ireland, Scotland, and the west of England. Another deep depression came in over Scotland on Tuesday, causing a renewal of bad weather. This system was quickly followed by a cyclone of great intensity, the centre of which passed eastwards south of Dublin, where the wind backed through E. and N.E. to N. and N.W., with a heavy fall of cold rain and sleet. A S.W. to W. gale of exceptional violence blew in the English Channel. A curious effect of the arrival of this depression was to cause a temporary calm in Scotland, accompanied by sharp frost, the thermometer falling to 21° at Aberdeen on Thursday morning and not rising above 28° at that station during the day. A final area of low barometer reached Ireland on Friday night. It brought high temperatures and a strong S.W. gale. In Dublin the mean height of the barometer during the week was only 29·507 inches. The mean temperature was 41·3°. The rainfall amounted to 9·92 inch on six days—5·04 inch being registered on Wednesday the 22nd.

Although still changeable in many respects, the weather moderated considerably after Sunday, the 25th, on which day a fresh S.W. gale was felt. Both on the 25th and 27th the barometer over the south of France stood about two inches higher than it did off the W. coast of Norway, and consequently westerly winds of great strength prevailed. In Dublin Sunday's gale was accompanied by a very heavy rainfall—more than eight-tenths of an inch being registered in 12 hours. In Dublin the mean height of the barometer in the week ending Saturday, February 1, was 30·123 inches. The mean temperature was 43·2°. Rain fell on four days—the total measurement being 1·994 inches, of which 1·43 inch fell on Sunday, the 25th.

FEBRUARY.—This month was remarkable for the contrast it afforded to January. South-easterly and easterly winds, quiet, chiefly fine weather, frequent fogs, and low temperature took the place of the blustering south-westerly gales, heavy and frequent rains, and high, unsteady temperature of the preceding month. The mean atmospheric pressure was nearly half an inch (·404 inch) above that of January, while the mean temperature was 3° below that of January.

In most particulars, February, 1890, may be regarded as a favourable month, but the amount of cloud—72·3 per cent.—was much in excess of the average, 65·0 per cent., and gave rather a gloomy aspect to the season, which was also notable for its foggy character.

In Dublin the mean temperature (41·5°) was 1·2° below the average (42·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 40·8°. In the twenty-five years ending with 1890, February was coldest in 1872 (M. T. = 37·9°) and warmest in 1849 (M. T. = 44·7°). In 1886 the M. T. was 39·7°. In the year 1879 (the cold year) it was 40·1°. In 1883 it was as low as 38·6°, and in 1889 it was 40·8°.

The mean height of the barometer was 30·204 inches, or 0·342 inch above the average value for February—namely, 29·862 inches. The mercury rose to 30·744 inches at 11 a.m. of the 23rd, and fell to 29·539 inches at 9 a.m. of the 16th. The observed range of atmospheric pressure was, therefore, 1·206 inches—that is, a little over one inch and two-tenths. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 40·8°, or 3·3° below the value for January, 1890. Using the formula $\text{Mean Temp.} = \text{min.} + (\text{max.} - \text{min.} \times .50)$, the value becomes 41·5°, compared with a twenty-five years' average of 42·7°. On the 1st the thermometer in the screen rose to 52·5°—wind W.S.W.; on the 16th the temperature fell to 37·9°—wind calm. The minimum on the grass was 25·0° on the 8th and 14th.

The rainfall was only 6·02 inch, distributed over 7 days. The average rainfall for February in the twenty-five years, 1865–89, inclusive, was 2·150 inches, and the average number of rainy days was 17·2. The rainfall and the rainy days, therefore, were both considerably below the average. In 1883 the rainfall in February was large—8·792 inches on 17 days; in 1879, also, 8·700 inches fell on 23 days. On the other hand, in 1873, only 3·26 of an inch was measured on but 8 days; and in 1887 only 2·41 inch of rain fell on 11 days. The rainfall in 1887 was much the smallest recorded in February for very many years.

Snow or sleet fell on the 13th and 28th. Hail fell on the 27th. The atmosphere was foggy on as many as 10 days, namely—the 5th, 6th, 8th, 14th, 15th, 16th, 21st, 22nd, 23rd, and 25th. High winds were noted on 6 days, reaching the force of a gale on only one day—the 13th. The temperature exceeded 50° in the screen on but 2 days, compared with as many as 17 days in January, and with 8 days in February, 1889; while it fell to or below 32°, in the screen on 5 days, compared with only 1 day in January, but with 4 in February, 1889. The minima on the grass were 32°, or less, on 18 nights, compared with 15 nights in January and 21 nights in February, 1889. On 2 days the thermometer did not rise above 40° in the screen.

Fine, quiet, cool weather held almost throughout the first week (1st–8th). The barometer was generally high in central Europe, England and Ireland; low in the extreme north; and relatively

low over the Mediterranean and neighbouring countries. Strong S.W. to N.W. winds prevailed to the northward, moderate easterly breezes to the southward, while in the central zone between the northern and southern areas of low pressure, calm and very variable airs were observed, with fogs and frosts at times. Except on the west coast of Norway, the precipitation was small during the week. In Dublin the mean height of the barometer was 30340 inches. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 40° F. The corrected mean temperature, deduced from the daily extremes in the shade, was 41° F. Rain fell in appreciable amount on only one day, the quantity measured being but 0.10 inch (on Tuesday). At Christiansund, in Norway, on the contrary, the rainfall for the week up to 8 a.m. of Saturday amounted to 2.33 inches and was distributed over six days. Sharp frosts occurred over central Ireland on Wednesday and Saturday, the 5th and 8th, the lowest readings in the screen at Farnstown being 23° and 23° respectively, on the mornings of those days.

During the week ended Saturday, the 15th, the weather was throughout cold. Until the 14th it was very dry, with fresh, or strong searching south-easterly winds and much cloud. On that day a considerable fall of cold rain occurred, and Saturday proved bitterly cold, with a westerly wind and a vapour fog. During the greater part of the week an anticyclone, in the centre of which the barometer at one time stood above 306 inches, lay over the North Sea, Scandinavia, and the Baltic. It was to this system that the searching S.E. winds of the period owed their origin. On Tuesday the barometer fell decidedly, as a depression approached the S.W. of England from the Atlantic. This disturbance caused very heavy rain in Cork—55 inch being measured on Wednesday, and 1.35 inches on Thursday, at Roche's Point, near Queenstown. On Saturday the barometer again fell, while the wind became westerly or north-westerly with fog and a low temperature. In parts of England a good deal of snow fell. In Dublin the mean height of the barometer was 29935 inches. The corrected mean temperature was 38.9°; the mean dry bulb readings at 9 a.m. and 9 p.m. were 38.4°. Rain fell to the amount of .669 inch on Friday.

Very damp, changeable, dull weather prevailed during the greater part of the third week, which began in Dublin with a dense vapour fog and a very low temperature—27.9° in the screen. Until Saturday, the 22nd, a vast anticyclone lay over the north-east of Europe, while the barometer was low over the Atlantic to the south-westward of the British Islands. Consequently, easterly to southerly winds prevailed, accompanied by frost on the Continent; low temperature, cloudy skies, and gloom or fog in Great Britain; and a mild damp atmosphere, with frequent rain, in Ireland. On Saturday, however, the barometer rose fast in this country, as a new area of high pressure formed over Western Europe, and the week closed with a promise of quiet, cold weather. In Dublin the mean height of the barometer was 30022 inches. The mean temperature was 43.2°; the mean dry bulb temperature at 9 a.m. and 9 p.m. was 42.6°. Rain was measured on three days, the total downfall being .320 inch, of which .278 inch was caught on Sunday and .182 inch on Monday. The week began and ended with a dense vapour fog.

In the closing period of the month, from the 23rd to the 28th inclusive, at first mild and cloudy, the weather afterwards became cold and dry, with very keen polar winds, and snow showers in Great Britain and Ireland. The barometer was high throughout in Ireland, while depressions passed in a south-easterly or southerly direction across Scandinavia, the Baltic, and Russia. Hence polar winds prevailed in Western Europe. On Sunday, the 23rd, an anticyclone stretched across England and Ireland, in which countries the barometer stood at 30.70 inches or upward—at 8 a.m. the reading at Belmullet was 30.75 inches, at 11 a.m. that in Dublin was 30.744 inches. Gradients for northerly winds became more and more pronounced until Friday, the 25th, when a great current of polar air was flowing southwards all across Europe, and frost and snow were reported from most British and Continental stations, with a very dry searching air, particularly in Ireland. A solar and a lunar halo were seen on Friday, February 25.

The rainfall in Dublin during the two months ending February 28th has amounted to 3.777 inches on 26 days, compared with 4.632 inches on 35 days in 1889 and 2.344 inches on 23 days during the same period in 1888, and with a 25 years' average of 4.350 inches on 34.5 days.

At Greystones, Co. Wicklow, the rainfall in February, 1890, was 1.063 inches, distributed over 7 days. Of this quantity .890 inch fell on the 16th. Since January 1st, 3.555 inches of rain have fallen at that station on 29 days.

MARCH.—March, 1890, was a month of contrasts. As in 1889, it opened with very severe weather, a violent snowstorm being felt in the S.E. of England on the 1st and 2nd, the thermometer falling to 6° Fahr. at Hillington, in Norfolk. Warm and cold spells then succeeded each other to the close of the month, and heavy falls of rain occurred at times. On the whole there was a mean temperature above the average, and the rainfall also was in Dublin largely in excess. The mean height of the barometer was 415 inch below that of February, but 0.40 above that of January, 1890.

In Dublin the mean temperature (44.1°) was considerably above the average (43.1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 44.6°. In the twenty-five years ending with 1889, March was coldest in 1867 and 1883 (M. T. = 39.0°), and warmest in 1858 (M. T. = 47.8°). In 1876 the M. T. was 41.1°, in 1879 (the cold year) it was 42.5°, in 1888 it was as low as 39.8°, and in 1889 it was 44.0°. As a general rule, February in Dublin is only a shade colder than March. This is due to the fact that the Continental anticyclone usually embraces the British Isles and Scandinavia in March, causing easterly winds. In the present year, however, February was 3.6° colder than March.

The mean height of the barometer was 29789 inches, or 0.134 inch below the average value for March—namely, 29923 inches. The mercury rose to 30.684 inches at 9 a.m. of the 3rd, and fell to 29.904 inches at 4 p.m. of the 21th. The observed range of atmospheric pressure was, therefore, 1.680 inches—that is, nearly an inch and seven-tenths. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 44.6°, or 3.5° above the value for February, 1890. Using the formula, $\text{Mean Temp.} = \text{rain} + (\text{max.} - \text{min.} \times .485)$, the value becomes

44.9°. The arithmetical mean of the maximal and minimal readings was 45.1°, compared with a twenty-five years' average of 49.1°. On the 12th the thermometer in the screen rose to 59.6°—wind W.S.W.; on the 3rd and 9th the temperature fell to 31.2°—wind, N.E. and W.N.W. respectively. The minimum on the grass was 24.0 on the 3rd. The rainfall was as much as 3.633 inches, distributed over 17 days. The average rainfall for March in the twenty-five years, 1865-89, inclusive, was 2.061 inches, and the average number of rainy days was 16.5. The rainfall, therefore, was much above the average, while the rainy days were slightly above it. In 1867 the rainfall in March was very large—4.072 inches on 22 days; in 1883, 3.758 inches fell on 18 days; in 1860 also 3.629 inches fell on 21 days. On the other hand, in 1871, only 0.15 of an inch was measured on 12 days; and in 1874 only .033 of an inch fell, also on 12 days. In 1887 (the "dry year") 1.433 inches of rain fell on 15 days, and in 1889 1.776 inches fell on, however, as many as 17 days.

The atmosphere was foggy on the 19th, 20th and 27th. High winds were noted on 15 days, reaching the force of a gale on 4 days—the 7th, 8th, 16th, and 24th. Snow or sleet occurred on the 1st, 2nd, 9th, 16th, 18th, and 23rd; and hail fell on the 1st, 2nd, and 8th. The temperature exceeded 50° in the screen on 19 days, compared with only 2 days in February, and 17 days in January; while it fell to or below 32° in the screen on 4 days, compared with 5 in February and only 1 day in January. The minima on the grass were 32°, or less, on 16 nights, compared with 18 nights in February and 15 nights in January. On 2 days the thermometer did not rise to 40° in the screen.

The period ending on Saturday, the 8th, was divided into a very cold and a mild although stormy period—the former lasting until Tuesday the 4th in Ireland, but until Wednesday in England. A small but well-marked depression—which on Saturday, the 1st, had quickly travelled down the east coast of Great Britain as far as Spurn Head, and thence in a south-westerly direction across England—was found over Brittany on the 2nd. It caused heavy falls of snow in the S.E. of England, and showers of hail and snow in most parts of the country. In the wake of this depression an extraordinary fall of temperature took place in the centre and S.E. of England. Early on Tuesday morning the thermometer fell to 18° at Loughborough, 17° at Oxford, 15° in London, 14° at Cambridge, 13° at Dungeness, and 6° at Hillington, Norfolkshire—these were the lowest temperatures experienced in England during the present winter. Milder weather had already set in at the northern stations and spread quickly southwards. A series of deep depressions now travelled eastward across Northern Europe, causing gales, frequent showers, and very unstable temperatures. At 8 a.m. of Friday the barometer varied from 30.15 inches at Rochefort in France to 29.60 inches at Christiansund, in Norway. At 11 a.m. of Saturday a violent squall of hail, rain, thunder and lightning passed over Dublin. The mean height of the barometer during the first week (2nd-8th inclusive) was 30.012 inches. The mean temperature was 45.2°, the mean dry bulb readings at 9 a.m. and 9 p.m. being 42.2°. Rain was measured on four days, the total quantity being .256 inch, of which 1.20 inch fell on Saturday.

During the greater part of the second week (9th-15th, inclusive), strong, squally, westerly and south-westerly winds prevailed, but the weather remained for the most part dry. The general distribution of atmospheric pressure was—low in the north, high in the south. Hence the westerly winds of the period. On Sunday, the 9th, a frost occurred in the rear of a depression, which had passed eastwards across the lowlands of Scotland the previous evening. The wind afterwards backed gradually from N.W. to S.W. and finally to S, from which last point it blew freshly on Friday night. On Tuesday and Wednesday the thermometer rose to 60° or upwards in the shade at several stations in Great Britain—the highest reading of all being 63° at Aberdeen on Wednesday. In Dublin the mean height of the barometer was 29.942 inches. The mean temperature was 47.9°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 45.1°. The thermometer in the screen fell to 31.2° on Sunday but rose to 59° on Wednesday. Rain was measured on three days—the total quantity being .637 inch. Of this amount .190 inch was credited to Sunday, and .544 inch to Saturday.

At the beginning and close of the third week, changeable, rainy weather prevailed in Dublin—during the intervening period it was chiefly fine and quiet. Between Tuesday, the 13th, and Friday, the 15th, a deep depression travelled northwards from the south of Germany to the west of Scotland. It caused very unsettled weather, with heavy falls of rain and sleet, in the S.E., E., and N.E. of Great Britain, while it was very fine in Ireland. The week began with a deep and complex depression lying over this country—the barometer being as low as 29 inches at 5 a.m. of Sunday in Ulster and Leinster. Throughout the week numerous areas of low pressure lay over Western Europe, travelling in anomalous and erratic directions. Hence the changeable weather of the period. In Dublin the mean height of the barometer was 29.495 inches. The mean temperature was 41.7°. The mean of the dry bulb readings at 9 a.m. and 9 p.m. was 41.3°. The rainfall was .553 inch, distributed over four days. Of this amount, .138 inch was measured on Monday and .244 inch on Saturday. Sleet fell on Sunday and Tuesday. There were fogs on Wednesday and Thursday.

The chief characteristic of the weather during the week ended Saturday, the 29th, so far as Dublin is concerned, was a frequent and heavy downpour of rain—the precipitation amounting to 2.063 inches on five days. At the same time a decided increase of temperature was noted generally, so that on Friday the 28th the thermometer rose to 56° in London, 78° in Paris, and 79° at Biarritz. During the week several depressions crossed the British Islands in an easterly direction. Of these, the deepest was observed on Monday, when the barometer sank to 29.904 inches in Dublin, and a fresh S.E. gale and incessant rain prevailed. Two moderately fine days succeeded, but the weather became broken and rainy once more on Thursday, gloom and continuous rain occurring on Friday. Bright, dry weather and a fresh westerly breeze followed on Saturday. In Dublin the mean height of the barometer was 29.635 inches, pressure ranging between 29.904 inches at 4 p.m. of Monday (wind, E.S.E.), and 30.053 inches at 9 p.m. of Saturday (wind, W.). The mean temperature was 45.3°; the mean dry bulb temperature at 9 a.m. and 9 p.m. being 47.2°. The rainfall amounted to 2.063 inches on five days. Of this large quantity, .976 inch was registered on Monday and .469 inch on Friday.

The last two days were fine, quiet, cool, and dry—the month going out “like a lamb,” as it had come in “like a lion.”

The rainfall in Dublin during the three months ending March 31st has amounted to 7.470 inches on 43 days, compared with 57.34 inches on 43 days during the same period in 1880, 6.097 inches on 41 days in 1888, and a 25 years' average of 6.411 inches on 31.0 days.

APRIL.—April, 1880, was generally a favourable month. The mean temperature, rainfall, and rainy days were all somewhat below the average. Considered by weeks, the weather was first fine, dry, and quiet; then cold and showery; then dull and cheerless; then unsettled, equally, and showery, and lastly fine.

In Dublin the mean temperature (47.3°) was slightly below the average (47.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 40.3° . In the twenty-five years ending with 1880, April was coldest in 1879 (the cold year) (M. T. = 44.8°), and warmest in 1865 and 1874 (M. T. = 50.4°). In 1886, the M. T. was 46.3° , in 1887 it was as low as 45.1° , in 1888 it was only 45.7° , and in 1889 it was 46.1° .

The mean height of the barometer was 29.842 inches, or 0.015 inch below the average value for April—namely, 29.857 inches. The mercury rose to 29.302 inches at 9 a.m. of the 1st, and fell to 29.457 inches at 9 p.m. of the 15th. The observed range of atmospheric pressure was, therefore, only 0.845 inch—that is, a little more than eight-tenths of an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 46.3° , or only 1.7° above the value for March, 1880. Using the formula, *Mean Temp.* = *min.* + (*max.* - *min.* \times .476), the value becomes 47.0° , or 0.4° below the average mean temperature for April, calculated in the same way, in the twenty-five years, 1855-89, inclusive (47.4°). The arithmetical mean of the maximal and minimal readings was 47.3° , compared with a twenty-five years' (1805-1880 inclusive) average of 47.7° . On the 20th, the thermometer in the screen rose to 63.6° —wind S.W.; on the 3rd the temperature fell to 31.2° —wind, calm. The minimum on the grass was 24.8° on the same date. The rainfall was 1.575 inches, distributed over 14 days. The average rainfall for April in the twenty-five years, 1855-89, inclusive, was 2.035 inches, and the average number of rainy days was 15.2. The rainfall, therefore, was considerably below the average, while the rainy days were also deficient. In 1877 the rainfall in April was very large—4.707 inches on 21 days; in 1885 also 3.526 inches fell on 20 days. On the other hand, in 1873, only .498 of an inch was measured on 8 days; and in 1870 only .588 of an inch fell, also on 8 days.

No solar halos were seen. There was a lunar halo on the 24th. The atmosphere was more or less foggy on the 1st, 2nd, 3rd, 4th, 11th, 12th, 27th, and 28th. High winds were noted on 11 days, but on only two occasions was the force of a gale attained—namely, on the 7th and 22nd. Snow or sleet occurred on the 10th; and hail fell on the 8th, 10th, 22nd, 23rd, and 25th. The temperature exceeded 50° in the screen on 23 days, compared with 19 days in March, 2 days in February, and 17 days in January. It fell below 32° in the screen on one night only—that of the 3rd. The minima on the grass were 32° , or less, on 13 nights, compared with 16 nights in March, 18 in February, and 15 nights in January. The mean lowest temperature on the grass was 34.1° , compared with 34.4° in 1880, 34.6° in 1888, and 31.6° in 1887. A peal of thunder was heard to the westward at 12.10 p.m. on the 25th.

During the period ending Saturday the 5th anticyclonic conditions, accompanied with fine, dry, quiet, cool weather prevailed. The barometer was uniformly rather high and the winds were light and variable. The diurnal range of temperature was large. On the 3rd not a cloud was seen from morning to night. On Saturday the 5th it became evident that areas of low atmospheric pressure were about to encroach on the Irish coast from the Atlantic—the barometer fell decidedly, clouds increased, and temperature rose. In Dublin the barometer ranged from 29.802 inches at 9 a.m. of Tuesday the 1st (wind N.), to 29.942 inches at 9 p.m. of Saturday the 5th (wind, S.W.). The thermometer rose to 56.3° on Friday, having fallen the previous day to 31.2° in the screen and to 24.8° on the grass. Rain fell only on Saturday night, the resulting measurement being .050 inch.

Severe weather prevailed during the greater part of the second week—polar winds, cold showers, and frosty nights being experienced after Easter Day, the 6th, which was chiefly fine and mild. On this day a general decrease of atmospheric pressure occurred all over North-Western Europe, and at night an extensive depression travelled eastwards across Scotland, momentarily growing deeper. It came equally S.W. and afterwards N.W. and N. winds, and rain fell generally. By 8 a.m. of Tuesday, the 8th, the centre of this system had reached the Skagerrack, the barometer being as low as 29.64 inches at the Scaw—northerly winds, showers of hail, sleet, and cold rain, and low temperatures were prevalent in the British Islands, especially in Great Britain, where also thunder and lightning occurred at many stations. At this station the mean height of the barometer was 29.351 inches. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 43.5° , while the mean calculated from the daily highest and lowest readings in the shade was 45.2° . The rainfall was .290 inch, on four days; the heaviest fall in 24 hours being .100 inch on Thursday.

On the east coast of Ireland, as is usual in easterly winds, very dull, cold, cheerless, weather prevailed throughout the third week, and the 15th and 16th were wet in Dublin. In the west and northwest, however, the weather was much finer and brighter, although cold for the time of year. A severe thunderstorm occurred in the counties of Cork and Kerry on Thursday the 17th. During the entire period the weather was determined by a large area of low atmospheric pressure, which advanced slowly northwards and at the same time spread out in an easterly direction across France and Germany, while all through the barometer was high over Lapland and the northern part of Sweden and Norway. Fresh or squally easterly winds, consequently, prevailed, accompanied by low temperature, densely clouded skies, and cold rain at times. Thunder storms were reported daily from France after Sunday. Early on the morning of that day severe frost occurred in Great Britain—the lowest temperature of all being 24° at Naim. In Dublin the mean height of the

barometer was 29.636 inches. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 45.8°; the corrected mean of the daily highest and lowest shade temperature was 44.1°. The rainfall was .603 inch on two days—.439 inch fell on Tuesday and .164 inch on Wednesday. The mean amount of cloud at 9 a.m. and 9 p.m. was no less than 12 per cent.

At first summerylike, the weather in the week ending Saturday, the 26th, soon became unsettled, squally, showery, and cold; but towards the close of the period a marked improvement was seen. On Sunday gradients for southwesterly winds formed over Ireland, where temperature rose quickly—to 63.0° in Dublin and 63° at Parnassstown. But this change from winter to summer was of no long continuance, for by Monday morning the first of a series of depressions had reached the north coast, bringing with it squalls, showers, and a fall of temperature. A succession of typical showery April days followed—the worst weather of all being experienced in the South of England on Thursday and Friday owing to the formation in that district of a deep secondary barometrical depression. With a veering of the wind to N. on Saturday, the weather improved, becoming bright and bracing. In Dublin the mean height of the barometer was 29.785 inches. The mean temperature was 49.9°; the mean dry bulb temperature at 9 a.m. and 9 p.m. was 44.4°. Rain fell on five days to the amount of .983 inch, .129 inch being measured on Friday and .118 inch on Wednesday. Hail fell in Dublin on three days, and thunder was heard about midday on Saturday.

The weather of the last four days of the month was favourable, a copious but genial rainfall occurring on the 29th.

The rainfall in Dublin during the four months ending April 30th has amounted to 9.046 inches on 40 days, compared with 8.845 inches on 74 days during the same period in 1889, 8.090 inches on 58 days in 1888, and a 25 years' average of 8.406 inches on 60.2 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall during April, 1890, amounted to 1.483 inches, distributed over 20 days.

MAY.—Although changeable and generally showery, May, 1890, may be regarded as a favourable month both from a public health point of view and from that of agriculture. Until the 20th rain fell in frequent showers, and conditions were decidedly unsettled. After the date named, however, a succession of bright, spring-like days occurred, giving a wonderful impetus to vegetation.

In Dublin the mean temperature (53.2°) was decidedly above the average (52.0°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 52.8°. In the twenty-five years ending with 1889, May was coldest in 1869 (M. T. = 45.2°), in 1885 (M. T. = 48.7°), and in 1879 (the "cold year") (M. T. = 48.6°). It was warmest in 1867 (the "warm year") (M. T. = 55.8°) and 1875 (M. T. = 54.9°). In 1886, the M. T. was 50.3°, in 1887 it was 51.6°, in 1888 it was 52.5°, and in 1889 it was 54.0°.

The mean height of the barometer was 29.807 inches, or 0.182 inch below the corrected average value for May—namely, 29.989 inches. The mercury rose to 30.253 inches at 9 p.m. of the 22nd, and fell to 29.377 inches at 9 a.m. of the 10th. The observed range of atmospheric pressure was, therefore, 0.876 of an inch—that is, a little less than nine-tenths of an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 52.8°, or 6.6° above the value for April, 1890. Using the formula, Mean Temp. = min. + (max. - min. × .47), the value was 52.5°, or 1.2° above the average mean temperature for May, calculated in the same way, in the twenty-five years, 1855-89, inclusive (51.3°). The arithmetical mean of the maximal and minimal readings was 53.2°, compared with a twenty-five years' average of 52.0°. On the 23rd, the thermometer in the screen rose to 65.7°—wind E.; on the 31st the temperature fell to 39.1°—wind, N.N.W. The minimum on the grass was 33.0°, on the 3rd. The rainfall amounted to 2.438 inches, distributed over 17 days. The average rainfall for May in the twenty-five years, 1855-89, inclusive, was 2.030 inches, and the average number of rainy days was 15.4. The rainfall and the rainy days, therefore, were somewhat above the average. In 1886 the rainfall in May was very large—3.472 inches on 21 days; in 1869 also 3.414 inches fell on 19 days. On the other hand, in 1871, only .378 of an inch was measured on 9 days; in 1878 only .708 of an inch fell on 6 days; in 1887 only .382 of an inch fell on 10 days; and in 1888 only .378 of an inch on 11 days. In 1889, 2.131 inches fell on 17 days.

There were no solar halos, but a lunar halo was seen at 11 p.m. of the 31st. The atmosphere was foggy on the 16th. High winds were noted on as many as 10 days, attaining the force of a gale, however, on not one occasion. Hail occurred on the 14th. The only heavy falls of rain were on the 3rd (.430 inch), on the 16th (.290 inch), and on the 19th (.270 inch). There were no electrical disturbances in Dublin, but lightning was seen on the night of the 24th.

During the month the thermometer in the screen did not fall below 39.1° (on the 31st), and on not a single night was a temperature of 33° or less recorded on the grass. The mean minimal temperature on the grass was 42.2°, compared with 42.4° in May, 1889, 37.4° in 1888, and 37.0° in 1887.

May Day (Thursday), was beautifully fine and bright. A succession of depressions then began to approach Ireland from the westward, causing unsettled weather and falls of rain. On Saturday, the third, an excessively wet day, 4.56 of an inch fell.

During the week ended Saturday, the 10th, changeable, somewhat showery weather, and easterly (S.E. backing to N.E.) winds, prevailed. Speaking generally, the barometer stood high over the North of Scandinavia and of Russia, whereas it was low across Central Europe. In the last named district several areas of low pressure were observed from time to time, keeping the weather in an unsettled, showery, thundery state. Tuesday, the 6th, proved fair and bright, but in the afternoon electrical clouds overcast the sky, and a thunderstorm occurred at Holyhead. In Dublin the mean height of the barometer was 29.502 inches, pressure, receding to 29.377 inches at 9 a.m. of Saturday (wind, E.N.E.). The mean temperature was 51.8°. The mean of the dry bulb readings at 9 a.m. and 9 p.m. was 51.4°. Rain fell on the six days to the total amount of .331 inch.

Very changeable, showery weather prevailed in Ireland throughout the week ended Saturday, the 17th, where the wind generally blew from southwesterly points. In England the beginning and close

of the period were unsettled, but from Tuesday to Friday inclusive it was fine, sunny, and warm. On Monday and again on Friday, the thermometer rose to 68° or 70° at the central and southeastern English stations. During the week four distinct areas of low pressure passed across Western Europe from S. to N. Of these the first travelled along the east coast of Great Britain on Sunday, disappearing to the northward of Scotland on Monday, when the second system had already arrived on the Riviera from the Mediterranean. This disturbance reached the Christiana Fjord in Norway by Thursday morning. Lastly two depressions passed northwards across Ireland in rapid succession on Friday and Saturday, causing heavy rains and squalls. In Dublin the mean height of the barometer was 29.644 inches. The mean temperature was 51.0°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 51.0°. Rain fell to the amount of .864 inch, on six days. Hail fell on Wednesday, the 14th. Gloom and fog prevailed on Friday.

In the week ended Saturday, the 24th, at first changeable and showery, the weather finally became brilliant and summerlike, with clear skies and a cool easterly breeze. On Sunday morning rain fell in heavy showers and the wind blew freshly from S.E. As the day wore on, the weather improved and a depression off the S.W. of Ireland moved away over the Atlantic. On Tuesday morning another depression had advanced to St. George's Channel in an irregular direction from Spain and the Bay of Biscay. It caused heavy rains and great gloom in Ireland and the south of England. As it passed off, an area of high pressure formed over Western Europe, producing a grateful change to bright sunshine and genial warmth—and these lasted to the close of the week. In Dublin, the mean height of the barometer was 29.900 inches, pressure increasing from 29.517 inches at 9 a.m. of Tuesday (wind, S.E.), to 30.153 inches at 9 p.m. of Thursday (wind also S.E.). The mean temperature was 56.1°—the mean dry bulb temperature at 9 a.m. and 9 p.m. being 55.8°. The thermometers in the screen rose to 65.7° on Friday—the maximum of the month. Rain was measured on two days—the total quantity being .281 inch, of which .170 inch fell in the 24 hours ending 9 a.m. of Tuesday. Faint sheet lightning was seen on the south-eastern horizon on Saturday night.

Very fine, bright weather held during the greater part of the hot week (25th–31st, inclusive), Thursday, the 29th, being an exception owing to the approach of an extensive depression from the north-westward to Scotland, the south of Norway, and the North Sea. At the beginning, an anticyclone was found off the North of Scotland, while areas of low pressure were moving westwards along the southern shores of the British Islands, and a deep depression was forming over the Baltic. Thunder storms prevailed in the Channel Islands, the S.W. of England, and the S. of Ireland. A succession of beautiful days followed until Thursday, when a depression, with several subsidaries, approached North-western Europe from N.W. It caused clouds and rain generally and a remarkable fall of temperature, so that on Friday night ground-frost was felt at several British and Irish stations, snow and hail having already fallen in Scotland and the Hebrides. Saturday was again fine and chiefly bright. In Dublin the mean height of the barometer was 30.096 inches. The mean temperature was 52.5°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 53.4°. The thermometers in the screen rose to 64.6° on Sunday, and fell to 59.1° on Saturday. The rainfall amounted to .243 inch, all of which fell on Thursday.

The rainfall in Dublin during the five months ending May 31st has amounted to 11.483 inches on 76 days, compared with 10.476 inches on 51 days during the same period in 1859, 9.068 inches on 69 days in 1858, 6.469 inches on 62 days in 1857, and a 25 years' average of 10.466 inches on 51.0 days.

At Knockdoon, Greystones, Co. Wicklow, the rainfall in May, 1860, was 3.880 inches, distributed over 20 days. Of this quantity 730 inch fell on the 4th, .550 inch on the 17th, and .400 inch on the 20th.

JUNE.—A cloudy, showery, windy month of average temperature and atmospheric pressure, and showing a marked preponderance of south-westerly and westerly winds.

In Dublin the mean temperature (58.1°) was slightly above the average (57.8°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 57.4°. In the twenty-five years ending with 1858, June was coldest in 1882 (M. T.=55.5°), and in 1879 (the "cold year") (M. T.=55.9°). It was warmest in 1867 (M. T.=62.3°), in 1865 (M. T.=61.0°), and in 1848 (the "warm year") (M. T.=60.5°). In 1858, the M. T. was 57.5°, in 1855 it was 56.2°, and in 1859 it was 59.5°.

The mean height of the barometer was 29.944 inches, or 0.027 inch above the corrected average value for June—namely, 29.917 inches. The mercury rose to 30.375 inches at 9 a.m. of the 14th, and fell to 29.126 inches at 3 p.m. of the 30th. The observed range of atmospheric pressure was, therefore, 1.249 inches—that is, almost an inch and a quarter. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 57.4°, or 4.6° above the value for May, 1860. Using the formula, $\text{Mean Temp.} = \text{win.} + (\text{noon} - \text{min.} \times .465)$, the value was 57.6°, or 0.4° above the average mean temperature for June, calculated in the same way, in the twenty-five years, 1835–59, inclusive (57.2°). The arithmetical mean of the maximal and minimal readings was 58.1°, compared with a twenty-five years' average of 57.8°. On the 5th, the thermometer in the screen rose to 72.0°—wind S.W.; on the 7th the temperature fell to 43.2°—wind N. The minimum on the grass was 38.5°, also on the 7th.

The rainfall amounted to 1.950 inches, distributed over 16 days. The average rainfall for June in the twenty-five years, 1835–59, inclusive, was 1.817 inches, and the average number of rainy days was 13.6. The rainfall and the rainy days, therefore, were above the average. In 1878 the rainfall in June was very large—5.058 inches on 19 days; in 1879 also 4.046 inches fell on 24 days. On the other hand, in 1863, only .106 of an inch was measured on 3 days; in 1867, the rainfall was only .232 of an inch, distributed over only 5 days; in 1874 only .405 of an inch was measured on 9 days, and in 1868 only .677 of an inch fell on but 6 days. In 1858 the rainfall was as much as 3.045 inches, distributed over as many as 18 days.

High winds were noted on 15 days, but attained the form of a gale on only two occasions—the 2d and 24th. Temperature reached or exceeded 70° in the screen on only 2 days, as compared with 17 days in 1887, only 1 day in 1888, and 10 days in 1889. Thunder was heard on the 11th and 28th, and hail fell on the 28th and 30th.

In the first week the weather was chiefly favourable, although changeable, with squally westerly (W, S.W., and N.W.) winds, much cloud at times, and heavy rains in Scotland and the north, west, and south of Ireland, as well as in the south of England on Wednesday. The barometer was generally low in the extreme N. and N.W., high over the Bay of Biscay and central Europe. In Dublin the mean height of the barometer was 29.961 inches. The corrected mean temperature was 56.7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 55.6°. Rain was measured on three days, the total quantity being .305 inch.

During the greater part of the second week the weather was in an unsettled showery state, and thunder and lightning often accompanied the showers in various parts of the United Kingdom. Areas of low pressure were found in the W. and N.W., but on Thursday, the 12th, an area of high pressure formed over the Atlantic and gradients for northerly winds became established. In Dublin the mean height of the barometer was 29.927 inches, pressure ranging between 29.450 inches at 5 p.m. of Wednesday (wind, calm) and 30.375 inches—the maximum for the month—at 9 a.m. of Saturday (wind, N.W.). The corrected mean temperature was 57.6°, the mean dry bulb temperature at 9 a.m. and 9 p.m. being 56.7°. Rain fell in measurable quantity on four days, the total fall being .527 inch.

Changeable, cloudy, and at times showery weather prevailed during the third week—particularly in Ireland and Scotland. Some bright intervals were experienced in England. The barometer was relatively high over the Bay of Biscay, France, and Germany; relatively low over Scotland and Scandinavia. Hence the fresh westerly winds, and showers, and clouds of the period. On Tuesday morning, the 17th, a partial eclipse of the sun was well seen through passing clouds—the magnitude of the eclipse was 279 out of 1,000 parts. In Dublin the mean height of the barometer was 30.084 inches. The corrected mean temperature was 56.9°; the mean dry bulb temperature at 9 a.m. and 9 p.m. being 55.2°. Rain fell in measurable quantity on four days, the total amount being .291 inch.

The weather continued very changeable, squally, and showery during the period ending Saturday, the 20th. The general distribution of pressure was very like that observed in the previous week—that is, a relatively high barometer over the Bay of Biscay, France and Germany, with low pressures to the north-westward and northward of the British Isles and over northern Europe. Hence the prevalence of fresh westerly winds, clouds, and showers. The only serious depression observed was one which advanced rapidly towards the north of Scotland on Tuesday night, the 24th. It caused a disastrous gale in the Solway Firth, and in Scotland north of the Grampians—even in Dublin, the wind rose to the force of a moderate gale for a short time. Very heavy showers fell on Friday and Saturday, accompanied by some thunder locally, and hail was also observed about noon on Saturday, when the wind veered to N. In Dublin the mean height of the barometer was 29.981 inches. The mean temperature was 57.8°; the mean dry bulb temperature at 9 a.m. and 9 p.m. was 57.6°. Rain was registered on five days—the total measurement being .432 inch.

Sunday, the 29th, proved for the most part fine, but a brisk fall of the barometer took place as a depression, which was unusually deep for the time of year, advanced over the kingdom from W.N.W. On the 30th, heavy showers of rain and hail occurred, and the barometer sank to 29.126 inches at 3 p.m.

The rainfall in Dublin during the six months ending June 30th has amounted to 13.413 inches on 94 days, compared with 19.676 inches on 97 days during the same period in 1889, 12.113 inches on 87 days in 1888, 6.741 inches on 67 days in 1887, and a twenty-five years' average of 12.813 inches on 95.4 days.

At Knockdolian, Greystones, County Wicklow, the rainfall in June, 1890, was 1.780 inches distributed over 18 days. Of this quantity .410 inch fell on the 11th, .300 inch on the 5th, and .150 inch on the 26th.

JULY.—A very unsettled, squally, showery, cool month, with a great preponderance of south-westerly to north-westerly winds—a very common state of things in an Irish July.

In Dublin the mean temperature (58.1°) was decidedly below the average (60.6°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 57.8°. In the twenty-five years ending with 1889, July was coldest in 1879 (the "cold year") (M. T.—57.2°). It was warmest in 1887 (M. T.—63.7°), and in 1808 (the "warm year") (M. T.—63.5°). In 1886, the M. T. was 61.0°; in 1888 it was as low as 57.3°; in 1889, it was 58.7°. From this, 1887 proves to have been the warmest since the present records commenced, while July, 1888, was almost the coldest.

The mean height of the barometer was 29.884 inches, or 0.080 inch below the corrected average value for July—namely, 29.964 inches. The mercury marked 30.358 inches at 9 a.m. of the 26th, and fell to 29.306 inches at 9 p.m. of the 7th. The observed range of atmospherical pressure was, therefore, 0.942 inches—that is, a little less than an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 57.8°, or 0.4° above the value for June, 1890. Using the formula, $\text{Mean Temp.} = \text{min.} + (\text{max.} - \text{min.} \times .435)$, the value was 57.7°, or 2.5° below the average mean temperature for July, calculated in the same way, in the twenty-five years, 1865–89, inclusive (60.2°). The arithmetical mean of the maximal and minimal readings was 58.1°, compared with a twenty-five years' average of 60.6°. On the 18th, the thermometer in the screen rose to 72.6°—wind W.S.W.; on the 5th the temperature fell to 44.4°—wind, N. The minimum on the grass was 41.0° on the latter date, and also on the 10th. The rainfall was 2.174 inches, distributed over 24 days. The average rainfall for July in the twenty-

five years, 1865-89, inclusive, was 2.480 inches, and the average number of rainy days was 17.2. The rainfall therefore, was somewhat below the average, while the rainy days were much above it. In 1880 the rainfall in July was very large—6.087 inches on 24 days; in 1871 also 4.391 inches fell on 23 days. On the other hand, in 1870, only .539 of an inch was measured on 8 days; in 1869, the fall was only .739 of an inch on 9 days, and in 1868, only .741 of an inch fell on but 8 days.

High winds were noted on many days, but attained the force of a moderate gale on only two occasions—viz., the 14th and 23rd. Temperature reached or exceeded 70° in the screen on only 4 days. In July, 1887, temperature reached or exceeded 70° in the screen on no fewer than 17 days. In July, 1888, the maximum was 68.7°.

At the beginning of the month the weather was, if possible, more broken, cold and showery than in the previous few weeks. Heavy showers fell almost daily, the wind blew strongly at times and from more northerly and colder points than of late, the amount of cloud continued large by day; while the nights were often clear and very cold for the season. On Friday, the 4th, an area of low pressure advanced to the English Channel and South of England from W.S.W. It caused gales and heavy rain in the S.E. of England at night, when clear cold weather held in Ireland. The week closed with a rising barometer, a northerly wind, and a clearing sky.

During the week ending Saturday, the 13th, the weather showed no improvement, but rather the reverse. Cloudy skies, very low temperatures, raw north-westerly winds, and frequent rains or showers made up the record of a most unseasonable period. Numerous areas of low pressure, or their subsidiaries, travelled across the west and north-west of Europe—for the most part in a north-easterly direction—keeping the weather in a very unsettled, broken state. On Monday, the 7th, a downpour of rain, exceeding an inch, occurred over the greater part of Scotland, and the Grampians and other heights were covered with snow as in October. Even at Farnstown in Central Ireland the thermometer sank to 38° in the screen on two consecutive nights during the week, and in Dublin the mean temperature for the week was 7° below the average. In this city the mean atmospheric pressure was 29.839 inches. The corrected mean temperature was 54.2°; the mean dry bulb temperature at 9 a.m. and 9 p.m. was 54.5°. Rain was measured on six days, the total quantity being .448 inch.

The weather of the week ending Saturday, the 13th, was generally warmer and finer, although far from settled, especially in the south of England where severe thunderstorms occurred on Thursday, the 17th, accompanied by torrents of rain. On the whole, the barometer remained—as in past weeks—low over the North of Europe, and several subsidiary depressions travelled across France and England, causing the electrical disturbances just mentioned. In Dublin a short spell of summer heat occurred on Sunday, when the thermometer rose to 72.8 in the screen. Early next morning the wind rose to a fresh gale from S.W., and this was followed in turn by heavy showers on the afternoons of both Monday and Tuesday. Temperature was at this time rising fast on the Continent, so that on Thursday readings of 84° were recorded in Paris, Berlin, and Brussels, while 89° was touched at Lyons. In the evening violent thunderstorms raged over the North of France, the South of England, and Belgium—1.79 inches of rain fell during the storm in London, 1.01 inches at Cambridge, and 1.02 inches in Paris. This day was very fine in Dublin. In Dublin the mean barometer was 29.891 inches, the mean temperature was 58.4°, the mean dry bulb readings at 9 a.m. and 9 p.m. being 58.2°. The corrected thermometer rose to 72.3° on Sunday—the maximum of the month. Rain was recorded on five days, the total measurement being .487 inch.

Although far from settled, the weather of the week ended Saturday, the 20th, was finer and warmer than for many weeks past. The barometer was throughout high off the S.W. and S. of Ireland, while several extensive areas of low pressure travelled eastwards across Northern Europe. Hence strong N.W. and W. winds prevailed almost daily. After a moderate rainfall on Sunday evening three blustering, but chiefly dry, days followed. Thursday was very fine, but in the evening dense sprays of cirrus cloud shot up across the sky from W., ushering in a depression, with unsettled weather which lasted to the close of the week. In Dublin the mean height of the barometer was 30.101 inches, pressure ranging from 30.238 inches at 9 a.m. of Sunday (wind, N.W.) to 29.830 inches, at 9 a.m. of Saturday (wind, W.S.W.). The corrected mean temperature was 61.3°; the mean dry bulb temperature at 9 a.m. and 9 p.m. being 60.2°. Rain was registered on four days, the total measurement being .520 inch, of which .576 inch was entered to Friday.

The last five days were changeable and showery.

The rainfall in Dublin during the seven months ending July 31st has amounted to 15.387 inches on 118 days, compared with 13.146 inches on 112 days during the same period in 1889, 15.994 inches on 109 days in 1888, 7.935 inches on 80 days in 1887, and a 25 years' average of 14.733 inches on 112.6 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in July was 1.489 inches, distributed over 18 days. Of this quantity .260 inch fell on the 7th, and .210 inch on the 31st.

AUGUST.—Except for a fine warm period, extending from the 2nd to the 5th inclusive, and for a few isolated fine, but cool, days afterwards, this month proved showery, cold, and equally—the reduction of temperature after the 31st being especially remarkable. The prevailing wind was N.W. and temperature was 2.5° below the average. Happily, near Dublin, there were no torrential rains as in August, 1889, in which month 1.300 inches fell on the 10th and 1.942 inches on the 18th; but the frequency of the showers chilled the atmosphere and delayed the harvest.

In Dublin the mean temperature (57.2°) was decidedly below the average (59.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 56.3°. In the twenty-five years ending with 1889, August was coldest in 1881 (M. T.=57.0°), and warmest in 1871 (M. T.=62.0°). In 1883, the M. T. was only 57.4°; in 1879 (the "cold year"), it was 57.7°; in 1887, it was 60.3°; in 1888, it was 58.2°, and in 1889, 58.6°.

The mean height of the barometer was 29.878 inches, or 0.619 inch below the corrected average

value for August—namely, 29.837 inches. The mercury marked 30.231 inches at 9 p.m. on the 31st, and fell to 29.268 inches at 4.10 p.m. of the 26th. The observed range of atmospheric pressure was, therefore, 1.022 inches—that is, a little more than an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 58.3°, or 1.3° below the value in August, 1888, and 1889, and 1.8° below the value for July, 1890. Using the formula, Mean Temp. = $\frac{\text{max.} + \text{min.}}{2}$, the value was 58.9°, or 2.4° below the average mean temperature for August, calculated in the same way, in the twenty-five years, 1865–89, inclusive (59.3°). The arithmetical mean of the maximal and minimal readings was 57.2°, compared with a twenty-five years' average of 57.7°. On the 4th, the thermometer in the screen rose to 74.6°—wind, S.W.; on the 31st the temperature fell to 41.5°—wind, N. The minimum on the grass was 35.5° on the latter date. The rainfall was 2.790 inches, distributed over 19 days. The average rainfall for August in the twenty-five years, 1865–89, inclusive, was 2.825 inches, and the average number of rainy days was 15.5. The rainfall, therefore, was slightly less than the average, while the rainy days were considerably in excess of the average. In 1874, the rainfall in August was very large—4.340 inches on 18 days—and in 1868 also 4.745 inches fell on, however, only 13 days; but the heaviest downpour in August occurred in 1889, when 5.747 inches were registered on 22 days. On the other hand, in 1894, only .777 inch was measured on 8 days. In 1887, 1.620 inches of rain fell on 10 days, and in 1886, 1.370 inches on 12 days.

High winds were noted on as many as 11 days, and attained the force of a gale on two occasions—namely, the 15th and 22nd. The atmosphere was foggy on the 1st. Lightning was seen on the 15th, and a thunderstorm, with hail, occurred at Graystones, Co. Wicklow, on the 20th. Temperature reached or exceeded 76° in the screen on only 3 days, the 4th and 5th—or 8 fewer than in August, 1887, and one more than in August, 1888. Hail fell on the 23rd.

On Friday, the 1st, the unexpected approach of a shallow depression caused very wet inclement weather.

At the commencement of the week ending Saturday, the 9th, the weather was very warm, temperatures having risen to 74.6°, and generally fair. The arrival of a shallow depression on Wednesday caused dull weather with drizzling rain at first, but the evening was beautifully fine. Thursday was clear and fine, with easterly wind. Friday was fine and warm, but a dense haze prevailed during the whole day. Saturday was fine but cloudy, with fresh to strong north-easterly wind. The barometer fell slowly during Thursday and Friday, and quickly on Saturday. The mean height of the barometer in Dublin during this week was 50.135 inches. The corrected mean temperature was 61.6°; the mean of the dry bulb thermometer at 9 a.m. and 9 p.m. daily being 61.4°. The rainfall equalled .916 inch on two days.

In most respects the weather of the period ending Saturday, the 16th, presented a marked contrast to that of the previous week. Low and varying atmospheric pressure, a reduced temperature, clouds, squally westerly (N.W. to S.W.) winds, and frequent showers took the place of the high and steady pressure, warmth and sunshine, and easterly winds so prevalent in the first week of the month. During the first four days a thunderstorm depression travelled slowly in an east-north-easterly direction across England and the North Sea; while a deep depression passed over Ireland and Scotland from S.W. to N.E. on Thursday night and Friday. This latter disturbance caused fresh S.W. to W. gales and a very general rainfall—the precipitation being greatest in the N.W. of Ireland. In Dublin the mean height of the barometer was 29.695 inches. The corrected mean temperature was 57.4°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 57.0°. Rain fell to the amount of .689 inch on five days. Sheet lightning was seen on Friday night, the 15th.

The weather of the third week (16th–22nd, inclusive) was in keeping with that of almost the whole season—it was changeable, cool, squally, and showery. A very heavy fall of rain took place on the evening of Friday, the 22nd, and hail fell on Saturday, the 23rd. The general distribution of air-pressure was this—lowest off the N.W. of Norway, secondary depressions crossing the United Kingdom and France from the south-westward, a ridge of comparatively high pressure extending from the Peninsula across Central Europe. On Monday night and Tuesday a thunderstorm depression caused heavy rains in the S. and S.E. of England, but at this time the weather was chiefly fine in Ireland. On Friday, however, a depression advanced rapidly from S.W. across this country, and heavy rains resulted. In Dublin, the mean height of the barometer was 29.690 inches. The corrected mean temperature was 56.6°; the mean dry bulb temperature at 9 a.m. and 9 p.m. was 56.1°. Rain fell on five days, the total measurement being 1.088 inches, of which .851 inch was referred to Friday. Hail fell on Saturday.

The week ended Saturday, the 30th, was again one of broken weather—cold, squally, and very showery. The barometer was generally low in the N., relatively high in the S., and several well-marked cyclonic systems passed in an easterly or north-easterly direction across North-Western Europe. At 8 a.m. of Thursday, the 28th, the barometer was as low as 29.92 inches at Hesperden, the Gulf of Bohnia. On Friday, the 29th, a decided and general increase of pressure took place, gradients became slight, and the weather improved, although temperature remained low. In Dublin rain fell in greater or less quantity daily. Falls of hail occurred near the city on Sunday and Tuesday—a thunderstorm passing over Graystones, Co. Wicklow, on the afternoon of the latter day. Although conditions were quieter on Friday and Saturday, yet evaporation showers fell locally in Dublin, chiefly owing to the prevalence of variable sea breezes during the daytime. In Dublin the mean height of the barometer was 29.738 inches, pressure ranging from 29.269 inches at 4.50 p.m. of Tuesday (wind, W.N.W.), to 30.180 inches at 8 p.m. of Saturday (wind, N.). The corrected mean temperature was 51.2°—the mean dry bulb temperature at 9 a.m. and 9 p.m. being 51.2°. The rainfall equalled .640 inch, distributed over six days. On Monday .252 inch was measured. The week closed with signs of more settled weather, and Sunday, the 31st, was beautifully fine, although very cool.

The rainfall in Dublin during the eight months ending August 31st has amounted to 19'286 inches on 127 days compared with 9'455 inches on 96 days during the same period in 1887, 17'994 inches on 121 days in 1888, 18'803 inches on 124 days in 1889, and a 25 years' average of 17'338 inches on 1291 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in August, 1890, was 2'216 inches, distributed over 16 days. Of this quantity 460 inch fell on the 10th, and 360 inch on the 26th.

SEPTEMBER.—As in 1888 and 1889, so in 1890, September proved a fine month, with a high mean barometer. The prevailing winds were from warm quarters—chiefly S.W. There was no excessive rainfall, and temperature was remarkably high. From the 5th to the 15th, inclusive, conditions were anticyclonic, and the weather was sunnier. On the 20th a violent gale occurred, accompanied by very heavy rain. Taken, however, as a whole, the month was very favourable from an agricultural as well as from a health point of view.

In Dublin the mean temperature (59° 7') was much above the average (55° 6'); the mean dry bulb readings at 9 a.m. and 9 p.m. were 58° 9'. In the twenty-five years ending with 1889, September was coldest in 1896 and in 1892 (M. T.—58° 0'), and warmest in 1885 (M. T.—61° 4'). In 1890, the M. T. was as high as 58° 5'; in the year 1879 (the "cold year"), it was 54° 3'; in 1887, it was 54° 9'; in 1888, it was 54° 4', and in 1889, 55° 8', or exactly the average. So warm a September has not occurred for a quarter of a century.

The mean height of the barometer was 30'061 inches, or 0'151 inch above the average value for September—namely, 29'910 inches. The mercury rose to 30'407 inches at 9 a.m. of the 4th, and fell to 29'237 inches at 9 p.m. of the 20th. The observed range of atmospheric pressure was, therefore, 1'230 inches—that is, a little less than one inch and a quarter. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 58° 9'; or 2° 6' above the value for August, 1890. Using the formula *Mean Temp.*—*min.* + (*max.*—*min.* × 476), the value was 59° 3', or 3° 8' above the average mean temperature for September, calculated in the same way, in the twenty-five years 1865–89, inclusive (55° 5'). The arithmetical mean of the maximal and minimal readings was 59° 6', compared with a twenty-five years' average of 55° 8'. On the 7th, the thermometer in the screen rose to 71° 2'—wind, S.S.E.; on the 23rd the temperature fell to 48° 8'—wind, N.W. The minimum on the grass was 42° 0' on the 1st and 18th. The rainfall was 2'449 inches distributed over 14 days—the rainfall was somewhat above and the rainy days were somewhat below the average. The average rainfall for September in the twenty-five years, 1865–89, inclusive, was 2'176 inches, and the average number of rainy days was 147. In 1871, the rainfall in September was very large—4'048 inches on, however, only 13 days. On the other hand, in 1865, only '056 inch was measured on but 3 days. In 1888, the rainfall was only 788 inch on 10 days, and in 1889, 1'013 inches fell on 13 days.

High winds were noted on as many as 14 days, but attained the force of a gale on only three occasions—the 20th, 26th, and 30th. A solar halo appeared on the 10th, and about lightning was seen on the night of the 14th.

The first week happily witnessed a marked improvement in the weather, which became much warmer and finer—particularly in the east of Ireland and the S.E. and S. of England. This fortunate change was brought about by the establishment and development of an anticyclone, which had already appeared over Ireland on Saturday, August 30. At the beginning of the period temperature was very low and the wind was northerly. On Monday, September 1, however, a depression in the far N.W. caused a S.W. wind, which brought with it warmth and rain. The downpour was heavy in the N. and N.W. of Ireland, but moderate on the east coast. It blew freely from S.W. or W. until Thursday, after which day light, variable winds set in. The week closed with beautiful weather. At Munich 7'10 inches of rain fell in the 7 days ending at 8 a.m. of Friday, the 5th. In Dublin the mean height of the barometer was 30'262 inches, pressure ranging from 30'104 inches, at 9 a.m. of Tuesday (wind, S.W.), to 30'387 inches at 9 a.m. of Saturday (wind, N.). The corrected mean temperature was 59° 9'—the mean dry bulb reading at 9 a.m. and 9 p.m. being 59° 7'. The rainfall was 2'42 inch on 3 days. Of this quantity 1'62 inch was referred to Wednesday, the 3rd, when the fall at Greystones was 3'49 inch.

The improvement in the weather observed in the first week developed in, and continued through, the second week. It is true that strong winds were felt at times, while rain fell in the N.W. of Ireland and over the greater part of Scotland on several days; but in the E. and S. of Ireland and almost throughout England the week was practically rainless. At the beginning the centre of a well-formed anticyclone was found over Lincolnshire, where the height of the barometer at this time slightly exceeded 30'50 inches. This system subsequently moved slowly southwards, causing southerly winds and high temperature in Ireland and afterwards less settled conditions in the N.W. of this country. On Wednesday a new, but not so pronounced an area of high pressure began to spread over Ireland from the westward, whence it continued its course in an easterly direction, reaching England on Friday. Under its influence a further spell of fine weather was enjoyed. In Dublin the mean height of the barometer was 30'279 inches. The corrected mean temperature was 59° 8'. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 59° 4'. There was no measurable rainfall at this station, although light showers fell on Tuesday.

The fine weather experienced during the previous two weeks came to an end in the course of the third seven-day period, which—having opened fair and warm—closed with a tempest and downpour of rain. This unfortunate change was brought about by the retreat of the anticyclone towards N.E., while barometrical depressions of increasing intensity encroached more and more upon the British Isles as the week advanced. Even on Sunday signs of the untoward change were not wanting in Ireland, where a southerly wind freshened, cloud increased, and sheet lightning was seen after dark. At night also rain fell heavily on the W. coast. It was not until Wednesday morning,

however, that the wet weather reached the E. coast, and on this and the following day thunderstorms occurred in England. The most extensive and deepest of the series of depressions arrived on Saturday, which proved a day of storm and rain. In Dublin the mean height of the barometer was 29.776 inches, pressure decreasing intermittently from 30.154 inches at 9 a.m. of Sunday (wind, S.S.E.), to 29.237 inches at 9 p.m. of Saturday (wind blowing a gale from S. by E.). The corrected mean temperature was 57.5°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 58.0°. Rain fell on five days to the amount of 1.738 inches, 434 inch being measured on Wednesday, 310 inch on Friday, and 678 inch on Saturday. Sheet lightning was seen on Sunday night. The rainfall for the week at Knockdolian, Greystones, was 2.610 inches.

Opening with storm and rain, the fourth week (21st-27th inclusive) closed in sunshine and the warmth of midsummer—the intervening period being one of cloud and sunshine; passing showers and fresh or squally westerly winds. At 8 a.m. of Sunday the centre of a cyclone of great energy was found over Mayo, whence it had advanced from Kerry during the previous night. The barometer read 29.04 inches at Belmullet, but had been down to 28.81 inches at Valentia Island, in Kerry, at 6 p.m. the previous day. Fresh southerly (S.E. to S.W.) gales and heavy rain accompanied the disturbance, while thunderstorms occurred in England and France on its outskirts. The system travelled slowly away to N.N.E., and finally dispersed. On Thursday a large anticyclone advanced from the Atlantic over our southern districts, while depressions skirted our northern coasts. The result was a moderate gale from W. and showers at exposed stations. On Saturday the weather became brilliant and very warm. In Dublin the mean height of the barometer was 30.027 inches. The corrected mean temperature was 58.3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 57.5°. The rainfall was 128 inch on 3 days; of this amount 652 inch fell on Sunday. A lunar rainbow was seen at Greystones on the evening of Wednesday, the 24th.

The closing days of the month were breezy, and showers fell at times. On the night of the 30th there was a fresh S.W. gale, and rain fell heavily.

The rainfall in Dublin during the nine months ending September 30th has amounted to 20.855 inches on 151 days, compared with 10.968 inches on 112 days during the same period in 1887, 17.992 inches on 131 days in 1888, 19.936 inches on 147 days in 1889, and a twenty-five years' average of 19.734 inches on 142.8 days.

At Knockdolian, Greystones, County Wicklow, the rainfall in September, 1890, was 3.155 inches, distributed over 11 days. Of this quantity 760 inch fell on the 17th, and 730 inch on the 20th.

OCTOBER.—October, 1890, will be remembered as one of the driest, finest, and mildest on record in the east of Ireland. In the west of this country and in Scotland it was much less favourable, the weather being often squally and wet. During the first fortnight temperature was almost always above the average. On the 25th a cold period set in, which culminated in Ireland on the 27th and in England on the 28th—the thermometer in the screen sinking to 20° at Loughborough, 23° at Oxford and Dungeness, and 34° in London. This premature "cold snap" was followed by mild, dull, and damp weather to the end of the month. As regards atmospheric pressure, the general tendency was for an area of high barometer (anticyclone) to stretch across Ireland, England, and Central Europe, while areas of low pressure swept eastwards across Northern Europe.

In Dublin the mean temperature (51.7°) was considerably above the average (46.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 50.0°. In the twenty-five years ending with 1889, October was coldest in 1880 (M.T. = 45.4°), and in 1885 (M.T. = 45.9°), and warmest in 1876 (M.T. = 53.1°). In 1886, the M.T. was as high as 63.0°; in the year 1879 (the "cold year"), it was 49.7°. In 1887, it was as low as 47.3°; in 1888, it was 49.1°, and in 1889 it was only 46.7°.

The mean height of the barometer was 30.109 inches, or 0.209 inch above the average value for October—namely, 29.940 inches. The mercury rose to 30.359 inches at 9 p.m. of the 22nd, and fell to 29.486 inches at nine a.m. of the 28th. The observed range of atmospheric pressure was therefore, 1.073 inches—that is, a little less than an inch and one tenth.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 50.9°, or 8.4° below the value for September, and 5.4° below that for August, 1890. The arithmetical mean of the maximal and minimal readings was 51.7°, compared with a twenty-five years' average of 49.7°. Using the formula, Mean Temp. = Min. + (max. - min. × .436), the value was 51.5°, or 2.0° above the average mean temperature for October, calculated in the same way, in the twenty-five years, 1865-89, inclusive, (49.5°). On the 5th the thermometer in the screen rose to 63.2°—wind, W.S.W.; on the 27th the temperature fell to 34.2°—wind, N.W. The minimum on the grass was 28.9° also on the 27th; on three nights the thermometer sank below 32° on the grass.

The rainfall was only .639 inch, distributed over 11 days—both rainfall and rainy days were largely below average. The average rainfall for October in the twenty-five years, 1865-89, inclusive, was 3.166 inches, and the average number of rainy days was 17.6. In 1880 the rainfall in October was very large—7.838 inches on 15 days. In 1875, also, 7.049 inches fell on 20 days. On the other hand, in 1884, only .834 inch was measured on but 14 days, and in 1868 only .656 inch on 15 days. In 1888, the rainfall was 1.237 inches on 16 days, and in 1889 no less than 4.833 inches fell on 23 days. From these figures, October, 1890, proves to have been the driest on record for more than a quarter of a century at least.

A lunar halo was seen on the 23rd. High winds were noted on 14 days, but attained the force of a gale on only one occasion—the 15th. The atmosphere was more or less foggy in Dublin on the 8th, 9th, 11th, 12th, and 22nd. Lightning was seen on the evening of the 26th. Snow and sleet fell on the morning of this same day, and hail on the 15th.

A great dip in temperature accompanied a ridge of high pressure which travelled from W. to E. across Ireland and England on Wednesday and Thursday, the 1st and 2nd, but the thermometer soon recovered itself as a fresh S.W. wind sprang up.

The general character of the weather during the week ending Saturday, the 11th, was fine in the south, unsettled and rainy in the far north, cold in Scandinavia. The barometer stood high in an anticyclone stretching east and west across Central Europe, and interrupted only for a time on Tuesday, the 7th, by the appearance of a depression over Ireland, which subsequently moved southwards and underwent considerable modifications both in size and intensity. This system caused the only bad weather of the period in Ireland and England—a heavy fall of rain occurring on the 7th over the greater part of both countries. In the rear of this disturbance the barometer rose with great rapidity, and the anticyclone became re-established, leading to the end of the week and ensuing beautiful weather. Winter seemed to be settling in with considerable severity over Northern Europe as the week passed by. In Dublin the mean height of the barometer was 30.210 inches. The corrected mean temperature was 55.4°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 54.4°. The thermometer in the screen rose to 65.2° on Sunday and fell to 39.9° on Thursday. Rain fell to the amount of 0.86 inch. The prevailing wind was W.S.W.

At first fair and bright, the weather of the week ended Saturday, the 18th, afterwards became unsettled—squally, showery, and cold. Towards the end of the week an improvement took place, so that the period under review proved generally favourable. During the first three days a large anticyclone over Central Europe included in its influence England and the southern half of Ireland, while conditions were cyclonic over the northern portion of the British Islands. Dense fogs occurred at this time in England, where temperature was very low by night and in the mornings. On and after Tuesday, the anticyclone retreated southwards, and an extensive V-shaped depression encroached upon Western Europe. In the rear of its axis, strong N.W. winds sprang up, accompanied by showers of cold rain, hail, and some sleet. At several English stations thunder and lightning occurred on Wednesday and Thursday. On Friday the weather improved and Saturday was fine. In Dublin the mean pressure was 30.064 inches. The corrected mean temperature was 49.4°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 45.8°. Rain fell to the amount of 1.64 inch, 0.62 inch being measured on Wednesday, the 15th, when hail was also observed. The prevailing winds were W. and N.W.

Dull, but otherwise favourable and mild, weather prevailed during the greater part of the weekend Saturday, the 25th. On Friday conditions became less settled and a considerable rainfall occurred on Saturday morning. At first an anticyclone lay over Ireland, while a very extensive and deep depression had its centre over the Baltic Provinces of Russia. The winds were northwesterly and the weather was fine in Ireland. Four mild, cloudy days followed, with light drizzling showers from time to time in places. On Tuesday night a remarkable "chill" took place on the Continent and over the S.E. of England—at Belfort, in Alsace, the thermometer sank from 61° to 23° in less than twenty-four hours. On Friday the anticyclone moved away southwards, and large depressions began to encroach more and more upon the British coasts—the wind backed to W.S.W. and freshened considerably with rain or passing showers. In Dublin the mean height of the barometer was 30.255 inches, pressure rising to 30.350 inches, at 9 p.m. of Wednesday (wind, W.N.W.), the maximum of the month. The corrected mean temperature was 52.2°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 51.3°. The thermometers in the screen fell to 40.8° on Sunday and rose next day to 59.3°. The rainfall was 27.4 inch; there were three rainy days, and the heaviest fall in 24 hours was 1.64 inch on Saturday. The prevailing wind was northwesterly.

The weather was in every respect most changeable during the closing period of the month (25th–31st inclusive). At the beginning, the centre of an extensive and deep depression was found over the South of Sweden, while subsidaries travelled southwards across the British Islands. Very unsettled weather prevailed, squally northerly winds, with showers of wet snow and hail being reported from many stations. In Dublin sleet and snow fell on the morning of Sunday, the 26th, and the mountains were white with snow. After nightfall lightning was seen, and thunder and lightning occurred in several places. The cold culminated in a severe frost over England on Monday night and Tuesday morning, the 27th and 28th. The lowest temperatures recorded in the screen were 20° at Loughborough, 23° at Dungeness and Oxford, and 24° in London. This premature cold was followed by an extraordinary and rapid rise of temperature, amounting in 24 hours to 23° at Loughborough, 21° at York and Oxford, 23° at Shields, and 23° in London. The remainder of the period was mild, the air being often damp.

The rainfall in Dublin during the ten months ending October 31st has amounted to 21.49½ inches on 163 days, compared with 12.366 inches on 123 days during the same period in 1887, 19.219 inches on 147 days in 1888, 24.789 inches on 169 days in 1889, and a twenty-five years' average of 22.840 inches on 169½ days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in October, 1890, was only 600 inch, distributed over 13 days. Of this quantity 180 inch fell on the 5th, and 120 inch on the 14th. The rainfall at Greystones in October, 1886, was no less than 0.935 inches on 23 days, or more than eleven times as great as the fall in October, 1890.

NOVEMBER.—A wet, stormy, cheerless month, reminding one of November, 1888, which was the wettest and most stormy November observed in Dublin for more than a quarter of a century. The weather remained open until the 24th, when a spell of snowstorms and bitter cold set in with peculiar suddenness. On the 19th the thermometer rose in Dublin to 63° in the screen; on the 29th it fell to 26.3°. On several evenings bright "afterglows" were seen. A snowstorm on the night of the 26th–27th was the heaviest experienced since the memorable storm of January 17, 1881.

In Dublin the mean temperature (45.3°) was somewhat above the average (44.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 44.3°. In the twenty-five years ending with 1889, November was coldest in 1878 (M. T. = 36.2°), and in 1870 (M. T. = 42.2°), and warmest in 1881 (M. T. = 50.3°).

In 1886 and in 1889, the M.T. was as high as 46.4°; in the year 1879 (the "cold year"), it was 43.9°; in 1887, it was as low as 42.6°; and in 1888, it was as high as 47.6°.

The mean height of the barometer was 29.877 inches, or 0.033 inch below the average value for November—namely, 29.910 inches, and 0.857 inch below the mean pressure in November, 1889—viz., 30.184 inches. The mercury rose to 30.403 inches at 9 p.m. of the 18th and fell to 29.737 inches at 8 p.m. of the 6th. The observed range of atmospheric pressure was, therefore, 1.666 inches—that is, nearly an inch and seven-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 44.3°, or 6.6° below the value for October, and 14.6° below that for September, 1890. The arithmetical mean of the maximal and minimal readings was 45.3°, compared with a twenty-five years' average of 44.7°. On the 19th the thermometer in the screen rose to 63.6°—wind, S.W.; on the 25th the temperature fell to 29.3°—wind, W. The minimum on the grass was 22.6°, also on the 25th.

The rainfall was as much as 4.212 inches, distributed over 27 days—both rainfall and rainy days were therefore largely in excess of the average values. The average rainfall for November in the twenty-five years, 1865-89, inclusive, was 2.452 inches, and the average number of rainy days was 17.0. In 1876 the rainfall in November was large—3.014 inches on 20 days; in 1872, also, 3.414 inches fell on 24 days; in 1887, 3.012 inches fell on 18 days, and in 1888, 0.546 inches fell on 28 days. On the other hand, the rainfall in 1889 was only .929 inch on 9 days; in 1879, only 1.218 inches were measured on but 11 days, and in 1870 only 1.251 inches on but 10 days. The excess of the rainfall in 1890, and the equally marked deficit in 1889, are evident from these figures.

A solar halo was seen on the 13th. High winds were noted on as many as 12 days, and attained the force of a gale on 5 occasions—the 2nd, 6th, 14th, 23rd and 30th. The atmosphere was more or less foggy in Dublin on the 13th, 17th, 18th, and 25th. Hail fell on the 24th and four following days. Sleet and snow fell on the 23th, 27th, and 28th.

Very rough, unsettled, rainy weather prevailed during the greater part of the week ended Saturday, the 8th. There were, however, some clear intervals, Wednesday and Friday in particular being fine and bright. A succession of cyclonic systems swept across Western Europe, accompanied by gales and rains. Of these the deepest were observed on Sunday and Thursday. At 8 a.m. of the former day the barometer was down to 29.69 inches at Sumburgh Head, in the Shetlands, while it stood at 30.22 inches at Lisbon. Needless to say there were heavy S.W. to N.W. gales over the British Isles. During the next three days a complex low-pressure system travelled south-eastwards across these islands to Germany. But it was on Thursday that the most destructive and fatal disturbance of the week advanced from the Atlantic. Even in Dublin the barometer fell to 29.737 inches at 8 p.m. In front of the centre of this depression southerly gales prevailed, in its rear while gales from W., N.W., and N. were experienced. A new disturbance caused a heavy rainfall on Saturday. In Dublin the mean height of the barometer was only 29.435 inches—the highest reading was 29.870 inches at 2 p.m. of Wednesday (wind, N.W.); the lowest was 29.737 inches twenty-three hours later (wind, W.). The corrected mean temperature was 46.8°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 44.9°. The rainfall was .969 inch on seven days. The wind varied between S.W. and N.W.

Very changeable, rainy weather prevailed in Ireland almost throughout the second week also. Conditions were more favourable in England, especially in the S.E. and E. of that country. The general distribution of atmospheric pressure was: anticyclonic over Northern Europe and also over the Peninsula—cyclonic in the British Islands and their neighbourhood. The centres of low pressure were usually found off the W. and N.W. of Ireland and of Scotland; but on Sunday such a centre lay over the N.E. of England, while very heavy rain fell on the east coast of Scotland, in Cheshire, and in North Wales. On Monday night there was a downpour in and about Dublin. Thursday and Saturday were fine, bright days, and on Friday—with a S.W. wind, clouds and rain—came a great rise of temperature—from 39.2° to 60.6° in a few hours. An anticyclone spread over Ireland on Saturday. In Dublin the mean height of the barometer was 29.678 inches. The corrected mean temperature was 44.8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 42.5°. Rain fell on six days to the amount of 1.107 inches, the heaviest fall in 24 hours being .625 inch on Monday. The wind varied between S. and N.W.

The remarkable mildness of the weather throughout Western Europe was the chief feature of the third week. On Wednesday the thermometer rose above 60° in England and Ireland and to that point in Scotland. All through the week an area of high atmospheric pressure held over France and Germany, while depressions of no great intensity passed north-eastwards along the coasts of Ireland, Scotland, and Norway. Hence there was a continued prevalence of S.W. winds, accompanied by high temperature and occasional but not excessive rains. In Russia snow fell heavily, and, as a result, severe frost set in, the thermometer sinking to -11° Fahr., or 43° below freezing point, at Archangel on Tuesday, and at Moscow to -11° on Wednesday and -12° on Friday. In Dublin a very dense vapour fog was observed on Tuesday, but next day the temperature rose to 63° in the screen. This was the highest temperature recorded in Dublin in November since the 6th of this month in the year 1872. In Dublin the mean height of the barometer was 30.205 inches, pressure rising to 30.408 inches at 9 p.m. of Wednesday (wind, S.W., light). The corrected mean temperature was 50.4°, or 6.1° above that of the previous week. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 50.3°. Rain fell on five days to the amount of .468 inch.

The week ended Saturday, the 29th, witnessed an extraordinary change all over western and central Europe from the abnormally mild weather previously so prevalent to heavy snowstorms and extreme cold. The way in which this change was brought about is noteworthy. On Sunday the centre of a vast and deep depression, in which the barometer was down to 29.70 inches, lay over the Christiania Fjord in Norway; south of the centre warm S.W. and W. gales were blowing, while to the northward of it an influx of intensely cold E. wind took place. This cold current

curved southwards and swept over the British Isles as a keen N. wind on Monday, accompanied with heavy rain at first, and hail and snow afterwards. On Wednesday and Thursday Dublin was visited by the heaviest snowstorm which has been experienced in this city since January 17, 1881. In the suburbs the snow lay to the depth of from 7 to 8 inches. In the S.E. of England the fall was even greater, and a keen frost prevailed, the thermometer falling to 17° in the screen at Dagenham on Friday morning. In Dublin a thaw occurred on this day, but sharp frost prevailed on Saturday morning, when the minimum was 26° . The mean height of the barometer was 29.988 inches, pressure ranging between 29.325 inches at 9 p.m. of Sunday (wind, W. by N., strong), and 30.288 inches at 9 a.m. of Wednesday (wind, N.E., moderate). The corrected mean temperature was 80.5° , the mean dry bulb reading at 9 a.m. and 9 p.m. being 33.3° . The rainfall, which was largely in the form of snow and hail, measured 1.039 inches on seven days—the heaviest fall in 24 hours being .510 inch on Wednesday, the 29th.

Sunday, the 30th, was a day of storm and rain, and the snow rapidly disappeared under the influence of a S.W. gale and warm rain.

The rainfall in Dublin during the eleven months ending November 30th has amounted to 25.706 inches on 189 days, compared with 15.374 inches on 141 days during the same period in 1887, 25.708 inches on 173 days in 1888, 25.718 inches on 178 days in 1889, and a twenty-five years' average of 25.292 inches on 177.4 days.

At Knockdoon, Greystones, Co. Wexlow, the rainfall in November, 1890, was no less than 5.970 inches, distributed over 28 days. Of this quantity 1.000 inch fell on the 6th, and .790 of an inch on the 10th.

DECEMBER:—A very cold, dull, foggy month, with much cloud (76.6 per cent) and prevalent easterly winds (that is, winds from points between S.E. and N.E.) these conditions were determined by the persistence of an anticyclone to the eastward and north-eastward, while areas of low pressure occasionally skirted the western shores of Ireland, Scotland and Norway in their passage north-eastwards across the Atlantic Ocean and the Norwegian Sea. In central and south-eastern England intense frost was felt almost throughout the month, while the weather was at times open in Ireland and Scotland.

In Dublin the arithmetical mean temperature (39.2°) was decidedly below the average (41.3°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 38.4° . In the twenty-five years ending with 1889, December was coldest in 1878 (M. T. -32.8°), and in 1874 (M. T. -36.8°), and warmest in 1865 (M. T. $+40.2^{\circ}$). In 1886 the M. T. was as low as 37.9° ; in the year 1879 (the "cold year"), it was also 37.4° . In 1887 the M. T. was 39.9° ; in 1888 it was 43.6° , and in 1889 it was 43.8° .

The mean height of the barometer was 30.625 inches, or 0.150 inch above the average value for December—namely, 29.875 inches. The mercury rose to 30.434 inches at 9 a.m. of the 25th, and fell to 29.185 inches at 9 p.m. of the 18th. The observed range of atmospheric pressure was, therefore, 1.249 inches—that is, a little more than one inch and a quarter.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 86.9° , or 5.4° below the value for November, and 15.0° below that for October, 1890. Using the formula, Mean Temp. = $M.T. + (\text{max.} - \text{min.} \times .52)$, the value was 39.3° , or 2.2° below the average mean temperature for December, calculated in the same way, in the twenty-five years, 1865-89, inclusive (41.5°). The arithmetical mean of the maximal and minimal readings was 39.2° , compared with a twenty-five years' average of 41.3° . On the 1st the thermometer in the screen rose to 53.2° —wind, S.W.; on the 21st the temperature fell to 24.1° —wind, calm. The minimum on the grass was 20.1° also on the 21st. There were 8 days of frost in the screen and 23 days of frost on the grass.

The rainfall was 1.858 inches, distributed over 11 days. The average rainfall for December in the twenty-five years, 1865-89, inclusive, was 2.404 inches, and the average number of rainy days was 169. The rainfall, therefore, was decidedly below the average, while the rainy days were also much below it. In 1876 the rainfall in December was very large—7.566 inches on 23 days. In 1872, 4.032 inches fell on as many as 24 days; and in 1868 (which was otherwise a fine and dry year), 4.749 inches fell on as many as 27 days. On the other hand, in 1867, only .771 of an inch was measured on 13 days; and in 1871 the December rainfall was only .707 of an inch on 15 days. In 1885, only .742 of an inch of rain was measured on but 10 days, but in 1886 the rainfall was 3.348 inches, distributed over as many as 31 days. In 1887 (the "dry year"), the rainfall was 1.223 inches on 19 days; in 1888, it was 2.911 inches on 17 days, and in 1889, 1.554 inches fell on 15 days.

A lunar halo appeared on the 21st. High winds were noted on 10 days, but attained the force of a gale on only 2 occasions—the 18th and the 30th. The atmosphere was more or less foggy in Dublin on the 1st, 2nd, 8th, 9th, 10th, 16th, 20th, 21st, 24th, and 26th. Snow or sleet fell on the 19th, 27th, and 31st. Hail fell on the 7th, 24th, 27th, 29th, 30th, and 31st.

While the weather remained cold on the Continent and in the S.E., E., and centre of England, a spell of damp warmth was felt in Ireland, Scotland, Wales, and the N. of England in the earlier part of the period ending Saturday, the 8th. This was followed by keen easterly winds and lower temperatures generally after Tuesday, the 2nd. On Monday the 1st, a warm S.W. current swept over Ireland, Scotland, and Scandinavia round a depression near Bodø, in Norway, where the barometer was as low as 29.97 inches. On this day, temperature rose to 53.9° in Dublin and to 57° at Naír and Leith. The barometer now rose in the N. and fell in the S., a heavy downpour of rain occurred, and an easterly current took the place of the warm S.W. winds. The last three days were dry and bleak. The corrected mean temperature was 45.4° . The mean of the dry bulb readings at 9 a.m. and 9 p.m. was 45.0° . The screened thermometers rose to 58.9° on Monday. The rainfall was 1.162 inches on four days. Of this amount, .597 inch was registered on Tuesday. The wind was at first S.W., then calm, and finally N.E. to E.

Throughout the second week (7th-13th) an anticyclonic lay over the North Sea, Denmark; and the Southern part of the Scandinavian Peninsula, affecting Germany, France, and England to a less extent. Depressions of no great depth were found over the Iberian Peninsula, and—on Wednesday and Thursday, the 10th and 11th—off the western coasts of Ireland and Scotland also. These barometrical conditions determined the weather of the week. Continuous hard frost held in Germany, Belgium, and the greater part of France. Cold weather and dense fogs prevailed in England; while it was milder—especially on Wednesday and Thursday—in Ireland and Scotland. On these days also considerable quantities of rain fell at most of the Irish stations. In Dublin the fall was only just perceptible—0.02 inch on Thursday. The mean height of the barometer was 30.042 inches. The corrected mean temperature was 33.3°—the mean of the dry bulb readings at 9 a.m. and 9 p.m. being 38.9°. The rainfall was only .408 inch on Thursday. The prevailing wind was S.E., but from time to time the air was calm, with smoke fog over the city.

Exceptionally severe weather continued to prevail during the week ended Saturday, the 20th, in Germany, France, and the greater part of England. In Ireland and Scotland the cold was less intense, but still considerable, especially towards the close of the period. At 8 a.m. of Sunday the thermometer read 14° at Loughborough, 16° at Oxford, 18° at Cambridge, and 19° in London. It was 39° in Dublin at the same time. At night a shallow depression formed over the British Islands, and the wind shifted from S.W. to N.W. and N.E. in Ireland, with some cold showers on Monday, rain in Scotland, and snow in most parts of England. On Thursday a deep V-shaped depression advanced over Ireland from the Atlantic, and caused a S.E. to S. gale, with heavy rain and sleet or snow at night. The wind shifted to N.W. in the rear of this system on Friday, when the sky cleared and frost set in with haze and fog in Dublin. Meanwhile heavy falls of snow occurred in England, after which the frost thickened again, and winter seemed fully established as the week drew to a close. In Dublin the mean height of the barometer was 29.771 inches, pressure falling to 29.185 inches at 9 p.m. of Thursday (wind, S.S.E., a gale). The corrected mean temperature was 37.5°; the mean dry bulb temperature at 9 a.m. and 9 p.m. was 36.9°. The rainfall was .352 inch, on two days—.358 inch falling as rain and sleet on the night of the 18th—19th, when the record at Knockdolian, Greystones, Co. Wicklow, was .830 inch, and that at Easton Lodge, Monkstown, Co. Dublin, was .606 inch.

The fourth was another week of inclement weather—interrupted in Ireland and Scotland by a spell of milder conditions on Monday and Tuesday, the 22nd and 23rd. The week opened with severe frost in parts of Great Britain and Ireland, the lowest temperatures at 8 a.m. of Sunday being 14° at Loughborough, 16° at York, 20° at Parsonstown, 23° at Cambridge, and 24° at Aberdeen, Liverpool, and Dublin. In and about the last-named city there was a thick and beautiful rime, and it froze all day. Towards evening a depression, edging in from the west, brought a southerly wind and higher temperature. At 5.30 p.m. a lunar halo was visible. Next day was mild and dull in Ireland—the thermometer marking 40° at Parsonstown at 8 a.m., or 2½ higher than 24 hours previously. In England, however, the cold was on this day intense, among the 8 a.m. readings being these—Cambridge, 4°; Oxford, 5°; Loughborough, 10°; London, 15°; and York, 16°. On Tuesday, temperature again gave way in Ireland, but rose in England, although no decided thaw occurred. In Dublin Christmas Eve was frosty, calm, and foggy; but Christmas Day was dull and rainy at first; afterwards there was clear moonlight, followed by slight frost. Hail, graupel, and snow fell in heavy showers on Saturday, when there was a fresh breeze from E.N.E. to S.E. In Dublin the mean height of the barometer was 30.234 inches, pressure rising to 30.454 inches at 9 a.m. of Friday (wind, N.W.). The corrected mean temperature was 37.4°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 36.9°. The screened thermometers rose to 47.4° on Tuesday, having fallen to 24.1° on Sunday. The precipitation amounted to .230 inch on four days, .110 inch being registered on Friday. The wind was variable, and for the most part light.

Very cold, dry, and piercing easterly winds prevailed during the last four days of the month—culminating in a severe gale on the 30th, after which there was a fall of hail, snow, and soft hail (graupel). A thaw set in on the evening of the 31st.

The rainfall in Dublin during the year ending December 31st has amounted to 27.562 inches on 200 days, compared with 27.272 inches on 188 days in 1889, 28.679 inches on 190 days in 1888, 16.601 inches on 160 days in 1887, and a twenty-five years' average of 27.636 inches on 194.3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in December, 1890, was 27.85 inches distributed over 14 days. Of this quantity 7.80 of an inch fell on the 2nd, and .850 of an inch on the 18th.

RAINFALL IN 1889.

At 40, Finsbury-square, West, Dublin.

Rain Gauge:—Diameter of funnel, 8 in. Height of top—Above ground, 3 ft. 2 in.; above sea level, 50 ft.

Month.	Total Depth.	Greatest Fall in 24 hours.		Number of Days on which 50 or more fell.	Month.	Total Depth.	Greatest Fall in 24 hours.		Number of Days on which 50 or more fell.
		Inches.	Depth.				Inches.	Depth.	
January, . . .	4.978	9.63	1.63	21	August, . . .	8.749	9.61	2.24	20
February, . . .	9.88	9.78	3.03	7	September, . . .	8.989	9.70	3.03	14
March, . . .	9.538	9.78	4.03	17	October, . . .	9.78	1.74	3.03	17
April, . . .	1.777	9.80	1.03	14	November, . . .	4.203	9.18	3.03	23
May, . . .	2.438	9.80	2.03	17	December, . . .	1.958	9.87	2.03	12
June, . . .	1.698	9.82	1.03	28	Total, . . .	57.583	—	—	210
July, . . .	2.174	9.78	3.03	26					

The rainfall was only 134 of an inch in defect of the average annual measurement of the twenty-five years, 1863-89, inclusive—viz., 27.696 inches.

It will be remembered that the rainfall in 1887 was very exceptionally small—16.801 inches, the only approach to this measurement in Dublin being in 1870, when only 20.850 inches fell, and in 1884, when the measurement was 20.467 inches. In seven of the twenty-five years in question the rainfall was less than 26 inches, and in 1885 it was 20.614 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32.966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1886—namely, in 1872, when 35.966 inches fell on 238 days, and in 1880, when 34.512 inches were measured on, however, only 188 days.

In 1880 there were 200 rainy days, or days upon which not less than .01 inch of rain (one hundredth of an inch) was measured. This was in excess of the average number of rainy days, which was 194.3 in the twenty-five years, 1865-89, inclusive. In 1865—the warm dry year of recent times—as well as in 1887, the rainy days were only 160, and in 1870 they were only 145. In 1869, however, the rainfall amounted to 24.935 inches, or more than 8 inches above the measurement in 1887, and even in 1870, 20.850 inches were recorded. Included in the 200 rainy days in 1880, are 31 on which snow or sleet fell, and 28 on which there was hail. In January hail was observed on 3 days, in February once, in March on 3 days, and in April on 5 days. Hail also fell once in May, August, and October, twice in June, 5 times in November, and 6 times in December. Snow or sleet fell on 5 days in January, on 2 days in February, on 6 days in March, on 1 day in April, on 1 day in October, on 3 days in November, and on 3 days in December. Thunder occurred on four occasions during the year—on March 8th, April 26th, and June 11th and 28th. Lightning was also seen on one occasion in each of the following months—viz., May, August, September, and October.

The rainfall was distributed as follows:—7.470 inches fell on 45 days in the first quarter, 5.943 inches on 49 days in the second, 7.442 inches on 57 days in the third, and 6.767 inches on 49 days in the fourth and last quarter.

Of the 6.767 inches which fell in the fourth quarter of the year, 4.212 inches were measured in November on as many 27 days.

Abstract of Meteorological Observations taken at Dublin (40, Finsbury-square, West), during the Year 1889.

Month.	Abs. Max.	Date.	Abs. Min.	Date.	Mean Daily Max.	Mean Daily Min.	Rainfall.	Excess Days.	Mean Height of Barometer.	Highest Pressure.	Date.	Lowest Pressure.	Date.	Prevalent Wind.
January, . . .	48.0	18th	37.1	25th	39.9	37.9	2.773	21	30.740	30.640	10th	29.938	31st	S.W., W.
February, . . .	57.3	3rd	37.8	13th	47.3	37.3	1.00	9	30.704	30.714	29th	29.938	10th	S.E., E.
March, . . .	57.3	18th	31.3	1st-9th	47.3	37.3	1.100	17	30.709	30.714	12th	29.944	14th	W., S.W.
April, . . .	60.8	20th	31.3	1st	47.3	37.3	1.173	14	30.740	30.660	14	30.47	15th	S.W., E.
May, . . .	59.7	31st	39.2	8th	49.3	37.3	1.00	17	30.701	30.730	22nd	30.477	10th	E., S.E.
June, . . .	59.8	8th	47.3	7th	50.3	37.3	1.100	16	30.744	30.773	14th	30.734	20th	S.W., W.
July, . . .	52.8	21th	40.4	6th	47.3	37.3	1.774	24	30.718	30.739	20th	29.938	7th	W., S.W., S.E.
August, . . .	54.8	6th	41.9	11th	47.3	37.3	1.700	20	30.673	30.703	8th	30.213	26th	S.W., W.
September, . . .	57.2	7th	40.4	31st	47.3	37.3	1.400	14	30.701	30.667	14th	30.707	10th	S.W., W., E.
October, . . .	56.3	10th	40.2	27th	47.3	37.3	4.11	11	30.718	30.640	22nd	29.938	10th	W., S.W.
November, . . .	56.3	21th	37.3	29th	47.3	37.3	4.711	22	30.677	30.618	14th	30.707	6th	S.W., W.
December, . . .	57.3	14th	36.1	21st	47.3	37.3	1.400	10	30.708	30.640	22nd	29.938	10th	E., S.E.
Extremes, Dublin, and Mean	60.8	Aug. 11th	36.1	Dec. 11th	47.3	37.3	1.774	Days 200	30.718	30.774	Feb. 20th	29.938	Jan. 31st	W., S.W.

TABLE showing the Monthly and Yearly Rainfall at Dublin during the Twenty-one Years 1870 to 1890, inclusive; with the Means for the Twenty Years 1870 to 1889.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Rainfall.
1870.	1.541	2.649	2.383	1.614	1.347	1.131	1.009	1.214	1.074	1.164	1.010	1.010	20,980
1871.	1.804	2.948	2.14	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1872.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1873.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1874.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1875.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1876.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1877.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1878.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1879.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1880.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1881.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1882.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1883.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1884.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1885.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1886.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1887.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1888.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1889.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1890.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
Means.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010
1890.	1.804	2.947	2.123	1.123	1.378	1.068	1.041	1.068	1.068	1.027	1.010	1.010	21,010

* June, 1871, was the driest month of the twenty-one years.

† July, 1871, was the wettest month of the twenty-one years.

‡ December, 1878, was the month of the heaviest rainfall.

§ Heaviest rainfall in 24 hours—3.781 inches, on October 27th, 1889.

TABLE showing the Monthly and Yearly Number of Rainy Days* at Dublin during the Twenty-one Years 1870 to 1890, inclusive; with the Means for the Twenty Years 1870 to 1889.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Rainy Days.
1870.	14	18	11	8	14	8	8	7	11	18	11	14	215
1871.	20	18	12	20	9	16	10	12	12	12	14	15	181
1872.	28	20	21	12	20	18	12	17	22	22	24	24	226
1873.	21	8	22	8	17	10	20	22	18	18	14	7	188
1874.	14	12	12	18	14	9	16	16	22	22	18	18	184
1875.	28	17	14	22	18	20	18	14	14	18	18	18	205
1876.	8	22	22	17	8	14	10	14	17	20	20	22	185
1877.	28	19	20	21	18	12	22	24	10	18	22	17	220
1878.	20	14	17	18	22	16	8	22	16	18	11	16	202
1879.	10	28	18	17	28	24	24	18	18	14	10	12	208
1880.	8	17	18	20	9	18	24	10	18	18	20	18	186
1881.	14	18	17	18	18	21	18	21	12	18	18	18	184
1882.	17	18	17	20	18	22	22	11	18	22	24	21	227
1883.	20	17	18	10	18	22	22	14	14	16	18	18	186
1884.	18	20	17	11	18	10	22	8	14	14	14	20	187
1885.	22	18	18	18	22	8	10	14	22	22	17	18	188
1886.	22	18	18	18	22	18	18	18	18	18	18	21	229
1887.	22	11	22	20	10	18	22	18	22	11	18	18	180
1888.	8	14	18	17	21	18	22	22	18	18	18	27	180
1889.	16	20	17	22	27	8	15	22	18	22	8	18	180
Means.	17.9	19.9	18.4	18.0	18.6	14.9	18.9	18.6	18.7	18.9	17.4	18.8	189.9
1890.	21	7	27	14	17	18	24	18	14	21	27	11	200

* 24 days on which 32 inch, or upwards, of rain fell within the 24 hours.

† Driest month of the twenty-one years. Rainfall=2.12 inches.

‡ Wettest month of the twenty-one years. Rainfall=1.871 inches.

§ Month of the heaviest rainfall=3.781 inches.

TABLE showing the Temperature of the Air in Dublin in 1890, and the Average Temperature for the Twenty Years 1870 to 1890, inclusive, as recorded by Dr. J. W. Moore.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
1870, . . .	45.7	38.9	40.8	48.6	55.4	58.6	67.1	67.9	59.1	49.4	41.5	36.7	48.6
1871, . . .	37.6	46.6	45.6	48.7	53.6	54.0	56.0	63.8	53.4	50.7	42.6	41.4	48.5
1872, . . .	41.6	43.9	46.1	47.3	49.3	53.6	51.6	53.3	54.6	45.6	43.6	51.4	49.9
1873, . . .	43.2	37.3	40.3	45.6	50.7	57.6	60.3	59.3	56.6	47.1	43.1	44.7	49.9
1874, . . .	42.6	41.5	46.6	43.3	43.4	56.6	60.6	58.0	54.9	49.6	45.6	39.1	43.2
1875, . . .	43.6	40.8	43.1	48.4	56.7	52.6	57.0	60.0	57.3	45.0	42.6	40.4	46.8
1876, . . .	45.3	41.0	30.3	46.0	49.1	55.7	50.7	55.5	54.0	53.4	43.6	44.0	48.1
1877, . . .	42.6	45.0	41.4	45.3	48.7	57.5	57.6	57.6	53.4	50.1	45.0	41.6	49.7
1878, . . .	42.4	48.8	43.6	47.8	53.4	57.2	61.0	63.6	55.6	50.7	37.5	32.0	45.5
1879, . . .	36.7	33.5	41.5	40.7	47.6	54.6	59.8	56.0	53.6	43.0	43.1	37.0	46.4
1880, . . .	39.0	44.2	45.4	49.6	51.0	55.0	57.0	60.5	57.6	44.5	43.4	41.8	48.4
1881, . . .	33.4	39.5	43.4	44.7	53.6	55.3	50.9	56.0	58.6	47.3	42.4	30.3	47.7
1882, . . .	43.9	43.4	45.3	45.6	52.0	54.7	50.5	55.5	53.0	49.5	43.7	37.4	43.9
1883, . . .	43.4	42.5	52.0	45.5	50.6	53.8	56.0	58.8	54.8	46.0	43.6	41.5	49.2
1884, . . .	44.5	43.4	44.6	45.5	53.6	54.3	56.7	60.0	56.9	48.5	43.0	40.5	49.6
1885, . . .	40.5	45.7	43.7	43.6	47.4	54.8	56.6	53.9	53.9	44.6	43.1	41.5	47.6
1886, . . .	37.1	35.9	43.8	45.1	49.3	50.6	59.0	50.5	55.1	50.4	42.7	37.0	47.6
1887, . . .	40.7	41.9	40.1	46.9	50.6	50.9	62.4	59.0	53.0	45.8	41.6	33.1	46.0
1888, . . .	41.5	37.0	38.3	44.7	51.3	50.1	56.5	57.0	53.4	48.1	45.6	43.7	47.9
1889, . . .	41.8	33.4	40.0	42.3	43.4	48.9	57.4	57.8	54.0	47.3	43.4	42.0	45.9
Average, . . .	40.5	41.7	42.5	46.1	50.6	52.4	59.3	55.6	54.1	49.0	43.2	42.0	47.0
1890, . . .	44.7	41.6	44.8	47.0	49.8	57.8	57.7	56.9	49.5	21.5	44.5	32.5	43.6

DUBLIN CASTLE,

12th September, 1891.

SIR,

I have to acknowledge the receipt of your letter of the 11th instant, forwarding, for submission to His Excellency the Lord Lieutenant, a copy of the Agricultural Statistics of Ireland for the year 1890.

I am,

Sir,

Your obedient Servant,

F. J. CULLINAN.

The Registrar-General,
Charlemont House,
Dublin.